AUGUST 1950

ARCHITECTURAL RECORD

For Service and Safety...

Re-Floor with Flintkote

Patching...Resurfacing...complete New Surfacing is quick and easy with cold-laid asphalt mastic mixtures.

You cut cost three ways when you repair or re-floor using Flintkote Flooring Emulsions.

Installation is fast. This means a minimum of preparation to apply and a saving in time loss through interruptions of operation. Mastic made with Flintkote Flooring Emulsions can be hand finished or power floated and opened to normal traffic in as little as 48 hours.

Maintenance is minimized. The resilient qualities of these floors make them truly heavy duty. They absorb shock from heavy loads. They do not require joints. And traffic irons out minor cuts or bumps. Patches may be featheredged.

Service life is long and pleasant. You'll get years of trouble-free service from Mastic made with Flintkote Flooring Emulsions. And a bonus of employee satisfaction goes with it, because these floors offer a comfortable surface on which to work. They're resilient and quiet . . . serve to insulate against cold floors.

So, don't fail to specify Flintkote Flooring Emulsions whether purchasing for your own use or letting a contract, and thereby obtain the floor that gives you top quality . . . while it saves you money. Comprehensive literature is yours for the asking.

THE FLINTKOTE COMPANY *Industrial Products Division*
30 Rockefeller Plaza, New York 20, N. Y.
Atlanta • Boston • Chicago Heights • Detroit • Los Angeles
New Orleans • Washington • Toronto • Montreal

FLINTDEK MAKES SLIPPERY SURFACES SAFER!

Whenever slippery floors create a hazard, cut the risk with Flintdek.* This popular oil and grease resistant, anti-slip floor coating is now available in Cement Gray, Slate Gray, Visibility Yellow, Tile Red and Green.

Properly applied by trowel to almost any clean, rigid surface . . . Flintdek will not chip or peel. And areas such as ramps, platforms, steps, around machinery and pools are far safer places to work when surfaced with this durable, anti-slip coating. Write for folder and free applied sample.

*TRADE MARK

FLINTKOTE *Products for Industry*

ARCHITECTURAL RECORD (Vol. 108, No. 2, August, 1950) is published monthly by F. W. Dodge Corp., 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 W. 40th St., New York 18, N. Y. $4.50 per year; Foreign, $6.50.
(Regular Edition)

Entered as second-class matter at the Post Office, Concord, N. H., March 16, 1946, under the Act of March 3, 1879.

Vol. 108 · No. 2 *August 1950*

ARCHITECTURAL RECORD

Copyright 1950 by F. W. DODGE CORPORATION, with all rights reserved • Publishing Director, Magazine Division, H. Judd Payne • Business Manager, Robert F. Marshall • **EDITORS:** Editor-in-Chief: Harold D. Hauf, A.I.A., A.S.C.E.; Managing Editor, Emerson Goble; Senior Associate Editor, Frank G. Lopez, A.I.A.; Associate Editors, Robert E. Fischer (Engineering), Florence A. van Wyck; Washington News, Ernest Mickel; Contributing Editor, Frederic A. Pawley; Western Editor, Elisabeth Kendall Thompson; Special Editorial Representative, Western Section, William C. Rodd; Associate in South America, Edmund J. Whiting, A.I.A.; Editorial Assistants, Jeanne Davern, Dorothy C. Jackson, Herbert L. Smith, Jr., A.I.A. • **ART DEPARTMENT:** Design Consultant, M. Peter Piening; Assistant, Frances Torbert; Drafting, Sigman-Ward • **CONSULTANTS:** Chairman, Editorial Board, Kenneth Kingsley Stowell, A.I.A.; Industry Relations Consultant, Thomas S. Holden; Statistical Consultant, Clyde Shute; Field Research Consultant, Clifford Dunnells, Jr.

Architectural Record (combined with American Architect and Architecture) is published monthly by F. W. Dodge Corporation, 10 Ferry St., Concord, N. H., with Editorial and Executive Offices at 119 West 40th Street, New York, N. Y. Western Editorial Office, 2813 Channing Way, Berkeley, Calif. Thomas S. Holden, Pres.; Howard J. Barringer, Vice-Pres. and Treas.; Irving W. Hadsell, Vice-Pres.; Chauncey L. Williams, Vice-Pres.; Sanford D. Stockton, Jr., Secy.; Walter F. De Saix, Asst. Treas.; Edwin H. Freed, Asst. Treas.; Irving B. Satin, Asst. Treas. Member Audit Bureau of Circulation and Associated Business Papers Inc. Architectural Record is indexed in Reader's Guide, Art Index, Industrial Arts Index and Engineering Index. Subscription rates: United States and Possessions, Canada, Cuba, Mexico, Central and South America, and Spain, $4.50 the year, $7.50 for two years, $9 for three years; elsewhere, $6.50 the year, $11.50 for two years, $15 for three years. Single copy $1. Circulation Manager: Marshall T. Ginn. Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage. Other Dodge Services: Real Estate Record & Builders' Guide, Sweet's Files, Home Owners' Catalog, Dodge Reports & Dodge Statistical Research Service.

COVER:
Wieboldt's, Evanston, Ill. department store, Hedrich-Blessing Studio Photo; St. Ann's Church, Mission, Kan., L. D. Jones Photo; House in Chappaqua, N. Y., Ezra Stoller Photo; Biff's Restaurant, Hollywood, Calif., George R. Szanik Photo.

THE RECORD REPORTS 9
News from Washington. By Ernest Mickel 15
News from Canada. By John Caulfield Smith 16
Construction Cost Indexes 26

REQUIRED READING 28

HOUSE IN CHAPPAQUA, N. Y. 99
Katz-Waisman-Blumenkranz-Stein-Weber, Associate Architects

RESIDENCE OF MRS. EVELYN B. FICKE 106
New London, Conn. Stanhope B. Ficke and Grieshaber & Neilan, Architects

DEPARTMENT STORE WITH AMPLE PARKING 111
Wieboldt's, Evanston, Ill. Holabird & Root & Burgee & Associates, Architects-Engineers

REMODELING

BETHLEHEM STEEL COMPANY HOME OFFICE BUILDING 117
McKim, Mead & White, Architects

WESTERN SAVING FUND SOCIETY 120
Philadelphia, Pa. Harbeson, Hough, Livingston & Larson, Architects. Willing, Sims & Talbutt, Associate Architects

PENNSYLVANIA COMPANY FOR BANKING AND TRUSTS 123
Philadelphia, Pa. Howell Lewis Shay, Architects

ST. ANN'S CHURCH AND SCHOOL 126
Mission, Kansas. Kivett and Meyers, Architects

BUILDING TYPES STUDY NO. 164
DRIVE-INS — BANKS, THEATERS, RESTAURANTS

INTRODUCTION 131
BANKS 132
THEATERS 140
RESTAURANTS 146

ARCHITECTURAL ENGINEERING
TECHNICAL NEWS AND RESEARCH

ALL PURPOSE MILITARY SHELTER 154
Hugh B. Johnson and Associates, Architects. Paul Weidlinger, Consulting Engineer

WATER SAVING DEVICES FOR AIR CONDITIONING 158
By Lawrence A. Benenson, Architect

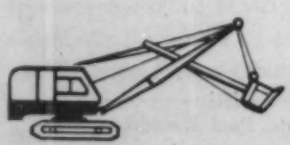
WEATHER'S EFFECT ON DESIGN STUDIED BY TEXAS COLLEGES 161

PRODUCTS . . . for Better Building 162

TIME-SAVER STANDARDS 165
Bibliography of Standard Codes and Specifications: 1
Prepared by William Henry Deacy, A.I.A.

MANUFACTURERS' LITERATURE 172

Defense Always Demands the Utmost—Two Huge Projects,



SAMPSON NAVAL TRAINING STATION, Sampson, N. Y. — 450 Buildings

The largest Naval Training Station built in America during World War II. It comprises 450 separate buildings, and all necessary utilities and facilities, including 6 huge Drill Halls, 626 ft. long by 120 ft. truss-span, 5000-man Mess Halls, Schools, Barracks, Drill Fields, a $12,000,000 Hospital Group, a 2 million gallon Reservoir, 52 miles of roads, 12 miles of railroad tracks, submarine cables, sewage facilities and civilian housing for a complete city of 50,000. This project for the Navy Dept. was completed in approximately seven months at a cost of $52,000,000... Shreve, Lamb & Harmon, Architect-Engineers

During the war years the Johnson Organization completed $300,000,000 of construction in the United States for government agencies.

The two large views across entire top of two pages show some of the training areas surrounding Drill Fields, at the Sampson Naval Training Station.

View at extreme left shows practically entire area of Sampson Naval Training Station, including most of the 450 buildings.

Small picture directly above shows erection of 120' laminated Arch-Trusses for 626 ft. Drill Halls at Sampson Naval Training Station, Lake Geneva, N. Y.

ARCHITECTS AND CONTRACTORS MEET TO FURTHER MUTUAL INTERESTS

MEMBERS of the Pasadena Chapter of The American Institute of Architects and of the Building Contractors Association of that area recently held a joint meeting termed "epochal" by Col. William H. Evans, regional vice president of the National Association of Home Builders.

The meeting, arranged not without reluctance by members of both groups, aired grievances and constructive suggestions of both architects and builders so successfully that those attending voted to have a joint committee work on common problems and to have further joint meetings of the entire groups.

D. B. Barker presided for the contractors, and Burton Romberger for the A.I.A. group.

"Here in Southern California, with all the progress we have made in home building, we have neglected one thing, our architecture," declared Colonel Evans in opening the discussion.

"We have built a lot of tripe. There are many advantages the architect can receive from the builder, but numerous more advantages the builder can receive from the architect."

Colonel Evans said his own experience as one of the state's largest merchant builders had shown him the advantage of architectural service, including building economies devised by architects.

He emphasized the need for architects in site planning, and suggested a committee be appointed on this subject.

"Let's Get Together"

He urged that builders and architects sit down together everywhere and work out mutual problems and understanding.

Contractor Russell Elam cited these reasons why many builders do not send customers to architects:

Architects are not interested in smaller homes.

Many builders do not realize the advantages of using architects' plans.

Builders fear the architect's fee will too greatly diminish the funds of prospect with only a small down payment.

Builders are afraid they will lose a customer — the bid will go to another contractor, or the architect will act as general contractor.

Mr. Elam also commented that too often architects "bring in plans that would cost $20,000 when the client only wants to spend $15,000."

Architects sometimes take advantage of the builder if the plans are wrong, he said. "Builders ordinarily do not make more than 10 per cent," he explained. "Do not compel a builder to pay for changes."

Mr. Elam declared he liked to "have an architect on the job as arbitrator; I like to work for architects, because I like to do a better job."

Better Cost Control Urged

The other speaker for the contractors, Luther Eskijian, echoed many of Elam's points and also made these suggestions:

"There should be better cost control, with the architect and the owner setting up a budget to shoot at.

"Sometimes architects put in expensive details. I know of a case where details cost more than labor.

"Architects should not ask for subbids too far in advance, because prices change. They should have preliminary bids. If the architect is unwilling to guarantee costs he should not expect the contractor to do so.

"Architects should select contractors who are competent to do the job."

A.I.A. speakers were Walter Hagedohm and Adrian Wilson.

"A good contractor must have honesty of purpose, a sense of responsibility to the owner," Mr. Hagedohm declared. "He needs a knowledge of costs."

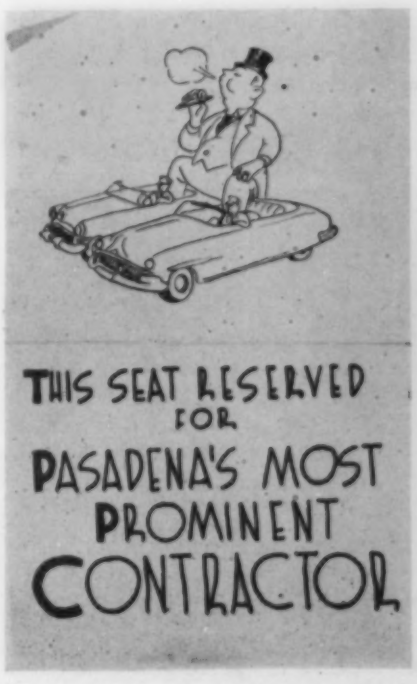
Dual Responsibility Stressed

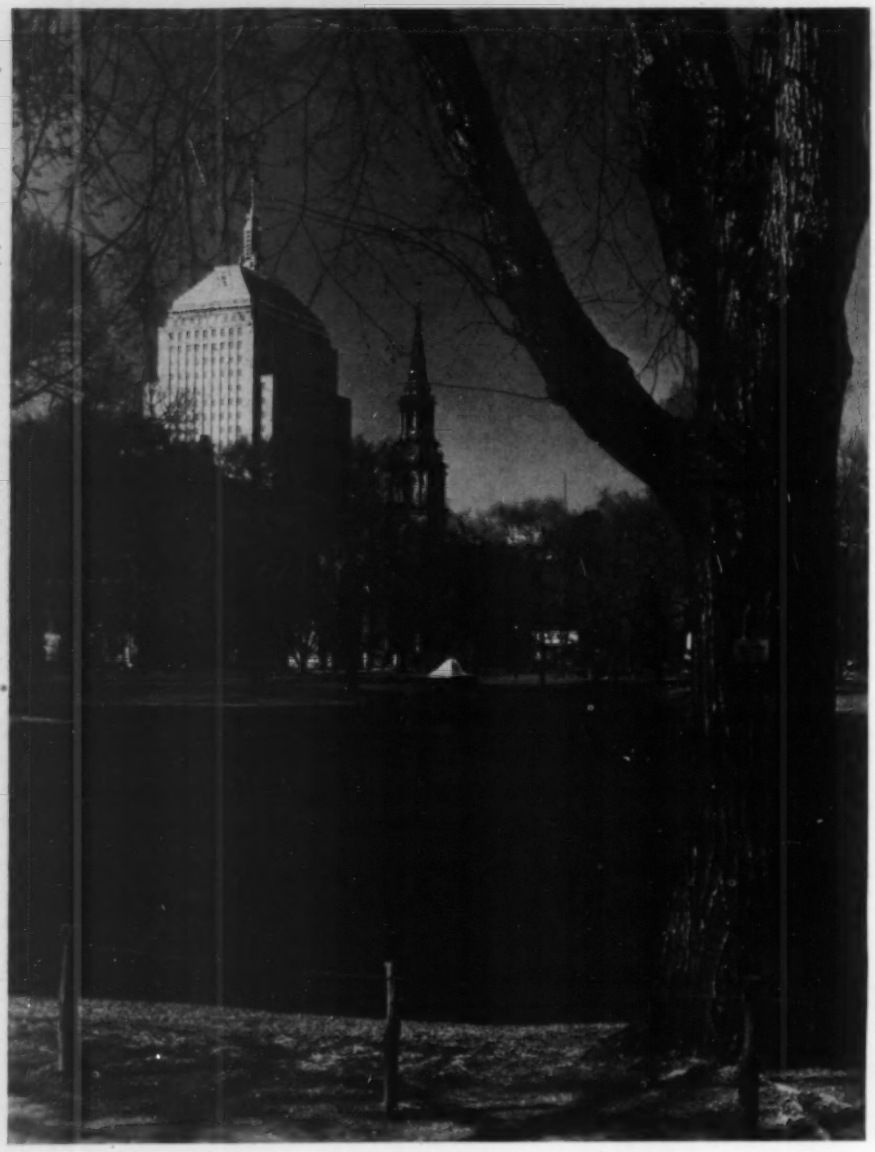
He said contractors also should have a willingness to learn and adopt new methods. Sometimes contractors change the whole appearance of a building because they refuse to try something new, he said.

"Both architects and contractors have a responsibility to the client. We should also understand our responsibility to the community."

Mr. Wilson ended the program with his review of the positions of the architect and the contractor in the building team, suggesting that a project consists of "ideas, things and people." The architect acts in the realm of ideas primarily, he said.

Place cards (reproduced below) guided contractors and architects to alternate places





Photograph by Haskell

John Hancock Mutual Life Insurance Building (above) won Architects Cram & Ferguson the Harleston Parker Medal for 1950, given for "the most beautiful piece of architecture, building or monument" completed in Boston since last year. The Boston Society of Architects selects the recipient. Pictured below at presentation dinner are: Ralph Bedar, winner of Society's $1000 traveling scholarship; Robert Bliss, $3000 Rotch Traveling Scholarship winner; James T. Doran and Chester N. Godfrey, of Cram & Ferguson; and Robert C. Dean, president of the Boston Society of Architects

NEW JERSEY'S ARCHITECTS HOLD BIGGEST CONVENTION

THE NEW JERSEY Chapter, American Institute of Architects, and the New Jersey Society of Architects climaxed the first year of an expanded program with their most ambitious convention, complete with producers' exhibits, architectural awards, seminars, and a full complement of distinguished guests.

About 150 member architects and "an unknown number" of non-member architects, engineers and contractors were on hand for the three-day meeting at Asbury Park's Berkeley-Carteret Hotel.

The seminars, on "The Case for Traditional and Modern Architecture" and "Contemporary Architectural Education" provoked lively discussions.

At the first, Cameron Clark, F.A.I.A., of New York, and Robert S. Hutchins, A.I.A., also of New York, proved to be "a liberal conservative and a conservative liberal" (in that order), agreeing that any architectural design must satisfy the demands of beauty and the practical requirements of the program, whether these be embodied in traditional or modern forms. Joseph N. Hettel, A.I.A., was moderator.

Dean George S. Koyl, F.A.I.A., of the School of Fine Arts, University of Pennsylvania, and Robert B. O'Connor, F.A.I.A., of New York were the speakers for the architectural education seminar, with Neil J. Convery, past president of the New Jersey State Board of Architects, as moderator. The topic was approached from three angles — the requirements of practicing architects, the aims of the architectural schools and the problem of the State Board of Registration in examining for the state license.

The convention heard addresses by President Ralph Walker of The A.I.A., Thomas S. Holden, president of the F. W. Dodge Corp., and Myron L. Matthews, Dow Service vice president and Technical Valuation Society president.

Certificates of Merit and Honorable Mentions for their entries in the architectural exhibition went to Alfonso Alvarez Jr., Marcel Villanueva, Levy & Scheingarten, Drake & Tuthill, Matthews M. Simpson, C. Harvey Convery, Leo L. Fischer and Vincent G. Kling. Special mention without award was given to Munn Pattison for excellence in model construction, to Knopf and Oshiver for brilliant presentation, and to Clarence Tabor for the plan of the Williams residence.

President Lauren V. Pohlman and his fellow officers, the same for both organizations, all were reelected.

REFURBISHED OCTAGON IS OPENED TO PUBLIC

HISTORIC OCTAGON HOUSE in Washington, D. C., since 1900 the official headquarters of The American Institute of Architects, is now open to the general public.

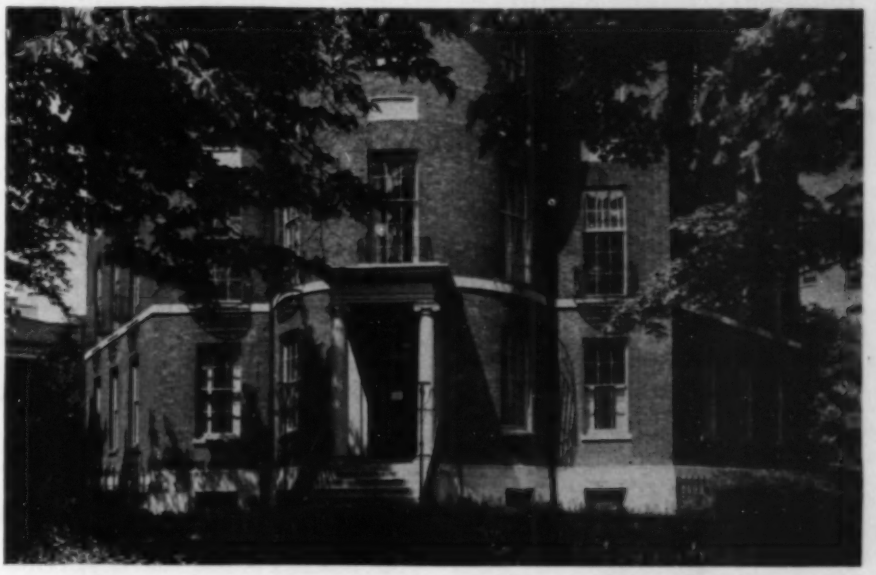
Its interior has been redecorated and refurnished and a new garden, designed by Cary Millholland, landscape architect, has been created as a memorial to architects killed in two world wars.

An exhibition of contemporary sculpture by the Washington Sculpture Group is currently being shown in the garden.

(Photos at bottom of page show front hall and staircase and one corner of dining room. At right are views of the garden and of the front exterior.)

Offices of the Institute have been moved into the adjacent administration building which faces the garden of Octagon House. The Octagon itself will be used as an active part of the headquarters of The A.I.A. for the reception of distinguished guests, members and their friends. The rooms are comfortably furnished for present-day use in the manner of the early Federal period.

Once the home of President and Mrs. Madison after the burning of the White House during the War of 1812, the 150-year-old Octagon House was originally the town house of Col. John Tayloe of Mount Airy, Va., and the scene of many historic events including the ratification of the Treaty of Ghent in 1814. The study where the signing occurred has been reserved from general use as a public shrine.



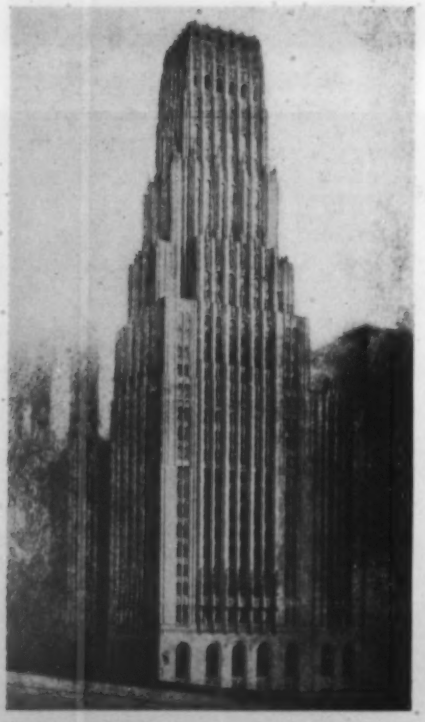
Edward M. Allen Photos

A recent photograph of Eliel Saarinen

ELIEL SAARINEN: HONORS STARRED HIS LONG CAREER

THE DEATH of Eliel Saarinen, which occurred on July 1 at his Bloomfield Hills, Mich., home, ended at 76 a career in architecture and city planning which had brought to Mr. Saarinen most of the high honors in the gift of his profession.

Only this Spring he was selected by the Royal Institute of British Architects to receive its Royal Gold Medal for Architecture. In 1947 he received the Gold Medal of The American Institute of Architects for the first-prize design in the competition for the proposed addition to the Smithsonian Institution, Washington, D. C. His work for the Cranbrook Foundation, with which he had been associated since 1925, won him a gold medal from the Architectural League of New York.



The Architectural Record *February, 1923*
SECOND PRIZE—THE CHICAGO TRIBUNE COMPETITION
Eliel Saarinen, Helsingfors, Finland

The Tribune Competition

Saarinen designs have received awards in innumerable competitions; and it was in fact one of these, the well-remembered Chicago Tribune competition of 1922, that aroused Mr. Saarinen's interest in the United States and a year later brought him here from his native Finland. There he had already achieved international recognition for such designs as his famed plan for the Helsinki Railroad Station and city plans for Reval, Estonia, Riga, Latvia and Canberra, Australia.

The Tribune's widely-advertised competition to secure a design for "the most beautiful office building in the world" brought Mr. Saarinen the second prize of $20,000 and unloosed a storm of criticism which was reflected in Louis Sullivan's article in the February 1923 issue of the RECORD:

". . . the second and the first prize stand before us side by side. One glance of the trained eye, and instant judgment comes; that judgment which flashes from inner experience, in recognition of a masterpiece. The verdict of the Jury of Award is at once reversed, and the second prize is placed first, where it belongs by virtue of its beautifully controlled and virile power. The first prize is demoted to the level of those works evolved of dying ideas. . . ."

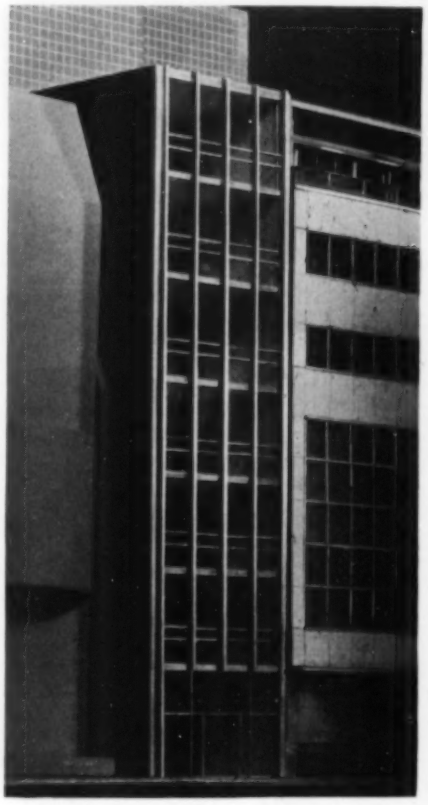
Not long after coming to this country, Mr. Saarinen became chief design critic for the Department of Architecture at the University of Michigan. At the Cranbrook Foundation, a development aided by the Detroit publisher, George G. Booth, he was head of the architectural department. He designed many of the buildings at Cranbrook School for Boys and the adjoining Kingswood School for Girls, as well as the Cranbrook Academy.

Some Noted Buildings

He will be remembered, too, for his designs for the Christian Church in Columbus, Ind., the Kleinhans Music Hall in Buffalo, and the structures for the Berkshire summer music festival in Stockbridge, Mass. A plan for Detroit and a design for the rebuilding of Chicago's waterfront were drawn up by Mr. Saarinen but never executed.

But he will be remembered above all for the truly creative spirit which gave his work its unquestioned integrity.

Below: Photo of rendering of new annex for New York's Museum of Modern Art, designed by Philip C. Johnson, director of the Museum's Department of Architecture and Design. The all-steel-and-glass exterior has vertical lines to contrast with horizontal design of the Museum proper. It will be New York's first non-frame structure without surface masonry. Expected cost: $350,000



ILLINOIS ARCHITECTS ELECT THEIR OFFICERS AT CHICAGO

F. M. BERNHAM of Chicago was elected president of the Illinois Society of Architects at the Society's annual meeting in Chicago.

Other officers elected were: Benjamin F. Olson, first vice president; A. Reyner Eastman, second vice president; Edgar D. Martin, treasurer; Gerald L. Palmer, financial secretary; Alfred Schimek, secretary.

Elected to the Board of Directors for three-year terms were Nathaniel Koenigsberg (secretary for the past five years) and Edward A. Schiewe.

Seven members were elected to the Board of Arbitration: Clarence W. Doll, Hamilton B. Dox, Thomas F. Imbs, Gilbert A. Johnson, Charles Macklin, Charles B. Rowe and David C. Wilson.

Dr. Melchior Palyi, German economist, gave the main address at the meeting.

NEWS FROM WASHINGTON *by Ernest Mickel*

As we go to press, the President's recommendations on measures required to meet the Korean crisis have just been made known. This Washington report, prepared before the emergency developed, still reflects the aims of the government; but already executive orders have suspended certain parts of the program, and at this writing, with the extent of the economic mobilization not yet known, it is impossible to make any judgment on when the full progam may be resumed.
— The Editors

IF THERE ARE to be adequate schools in this country the present building program must be doubled. That, in simple terms, is the feeling of private and public officials alike. The construction of schools now is running in the neighborhood of $500 million a year. It must be stepped up to at least $1 billion each year for the next decade if actual needs are to be satisfied.

The architect will be called upon increasingly during the years just ahead to help solve this major problem.

The fifth annual report of the National Education Association of the United States, just released, brings new pressure to bear on the need for more school classrooms. A good share of the 15-page brochure* is devoted to overcrowding. A section on "Housing Our School Population" details the current need but offers little in the way of suggested solution.

The significant thing about this annual report is that the estimated demand for new school building again is stated to be $10 billion, or $1 billion per year for the next 10 years. This now has become a familiar refrain in construction as well as education circles. Government sources have used it for months.

More specifically, the N. E. A. finds in a survey conducted as late as January 1950 that 12,559 classrooms now under construction will be ready for occupancy next September. This is estimated to be about one-third the new classrooms needed next year. And the survey covered only public school facilities in cities above 2500 population. The Association claims it will require an additional 24,499 rooms to give all children in these cities a full school day and to house nearly 400,000 additional pupils which these city schools expect to enroll in September, 1950.

There is a very logical reason why school construction has not kept pace with the increasing population and the demand for new buildings. Depression years, war years, and increased building costs are all part of the reason. As it was, the value of the American school plant more than doubled between 1920 and 1930. But this fell far short of permitting capacity to equal need.

Comments the N. E. A. in its recent report:

"It would have been the part of wisdom to continue school construction at a rate commensurate with the increasing enrollments. Nothing like this happened. Our national economy was affected by a serious depression. Few school buildings were erected because money for construction purposes was not available. When we were involved in World War II, both money and materials were dedicated to maintaining the battle lines. Skyrocketing prices at the war's close deterred the thrifty from expensive building programs."

The result is that one-fifth of school buildings now in use in city school systems are from 50 to 80 years old. Furthermore, 16 per cent of city children are going to school in buildings erected before 1900. It is estimated that thousands of other structures should be examined architecturally with a view to protection of life and for elimination of conditions in the school plant which lower the quality of educational programs.

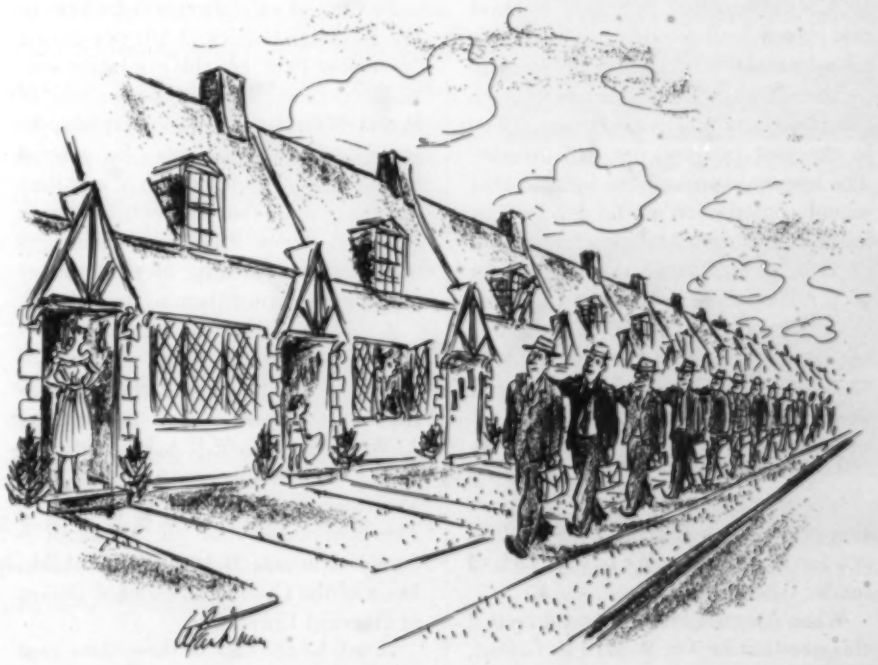
Improved quality of school construction since 1900 has added to its cost, the report points out. As the century began, there were few school buildings of concrete and steel. Disastrous school fires have lighted the way toward fireproof or "slow-burning" materials. Describing progress over the past half century, the N. E. A. said offices, laboratories, libraries, auditoriums, gymnasiums, clinics, and scores of special building provisions for auxiliary services have taken their places in school plants. These plants would have been mostly halls and classrooms 50 years ago.

The report continues:

"Adjustable seats, lockers, adequate lighting, heating and ventilation, program clocks, central communication systems and telephones have found their places in the schoolhouse since 1900. Some of these are fairly recent acquisitions. In 1936 an extensive study showed only 500 16mm sound motion picture projectors in the nation's schools. It is predicted that in 1951 there will be 24,500 of them."

The N. E. A. clinches its case for more

(*Continued on page 16*)



—Drawn for the RECORD by Alan Dunn

WASHINGTON

(*Continued from page 15*)

and better construction with this statement:

"While better school construction, better equipment and more efficient instructional supplies have brought a higher grade of schooling to millions of children in the past 50 years, there is today in hundreds of communities, particularly farm and village neighborhoods, an astonishing lack of these important provisions for safety, welfare, and better learning conditions. There can be little equalization of opportunity unless the tools of teaching and learning are available in all schools."

Contractors Cite School Needs

Earlier this year, the Associated General Contractors of America, Inc., called attention to the vast potential market awaiting architects and builders in school construction. It cited a General Services Administration report which held that a building volume of $11.5 billion at current price levels, exclusive of land, would be needed in the next 10 years. This amount of work must be done, it said, if the current demand for public elementary and secondary schools, publicly financed colleges and universities is to be met.

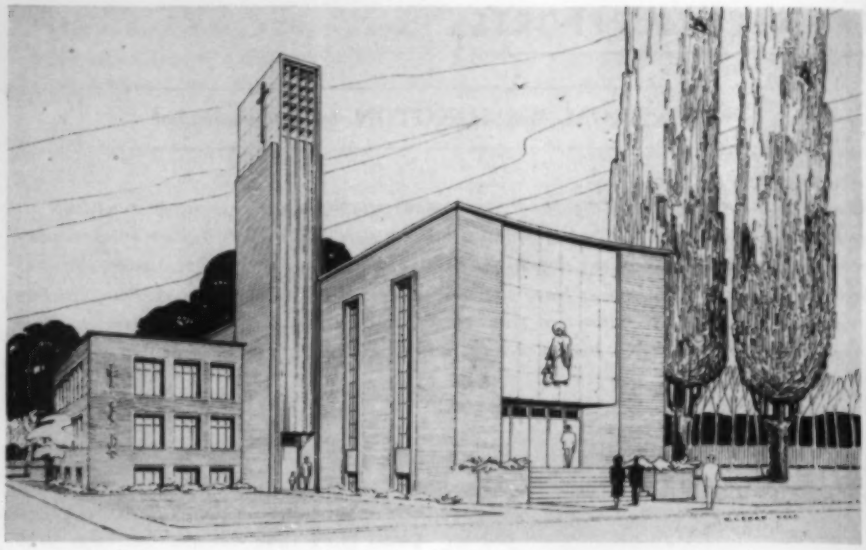
The volume is equivalent to all public school construction put in place since 1924. GSA pointed out that to meet this current and growing need for more school rooms, it would be necessary to compress within the next decade as much school construction as was accomplished in the past two and one-half decades. The agency expressed the opinion that school construction would level off at less than the needed billion-plus per year in 1950. School building contracts for $705 million were awarded in 1948, and GSA shows that public construction educational awards in 1949 amounted to $853,312,000. The total first quarter figure for 1950 was $199,191,000.

No Immediate Answer

Like so many other lagging construction programs, new schools are held up not for lack of planning but for lack of funds. What's to be done?

When ARCHITECTURAL RECORD posed this question for Dr. Willard E. Givens, N. E. A.'s executive secretary, he replied

(*Continued on page 18*)



Gordon S. Adamson of Toronto is architect for the United Church (photo above), Oshawa, Ont. The main church building, 39 by 107 ft, will include nave and chancel with gallery and gymnasium. Sunday School section attached will be two stories and basement, 50 by 34 ft. Church proper will seat 438 persons, is expected to cost about $225,000

NEWS FROM CANADA *by John Caulfield Smith*

Massey Medals Set Up to Reward Good Architects

IMPORTANT NEWS for every Canadian architect is the inauguration of the Massey Medals for Architecture. These medals, awarded by the Massey Foundation, will give deserving architects national recognition and stimulate public interest in architecture.

The initial exhibition will be held in the National Gallery at Ottawa during November 1950. For this exhibition only buildings completed since the end of World War II (Aug. 15, 1945) may be entered. No building may be entered more than once, and no firm or architect may have more than two entries in each category. Those architects wishing to exhibit have already filled in entry forms and returned them to the R.A.I.C.

A three-man jury has been chosen according to a ruling that two must be Canadian architects, the third a non-resident architect. The Canadians are J. W. Balharrie, M.R.A.I.C., Ottawa, and J. Roxburgh Smith, F.R.A.I.C., Montreal, president of the R.A.I.C. The non-resident is an American — Joseph Hudnut, B.Arch., S.M., A.M., Dean of the Graduate School of Design at Harvard University.

It will be the task of these three men to select the Canadian architect or firm of architects designing the work judged best in each of 15 categories. Silver medals will be awarded these winners. As well, a gold medal will go to the architect or firm whose work is judged best of all entries. It is planned that the winning entries, at least, will be exhibited across the country.

The Massey Medals will be awarded every two or three years, depending upon the amount of building activity.

Five Months of 1950 Show 12 Per Cent Building Gain

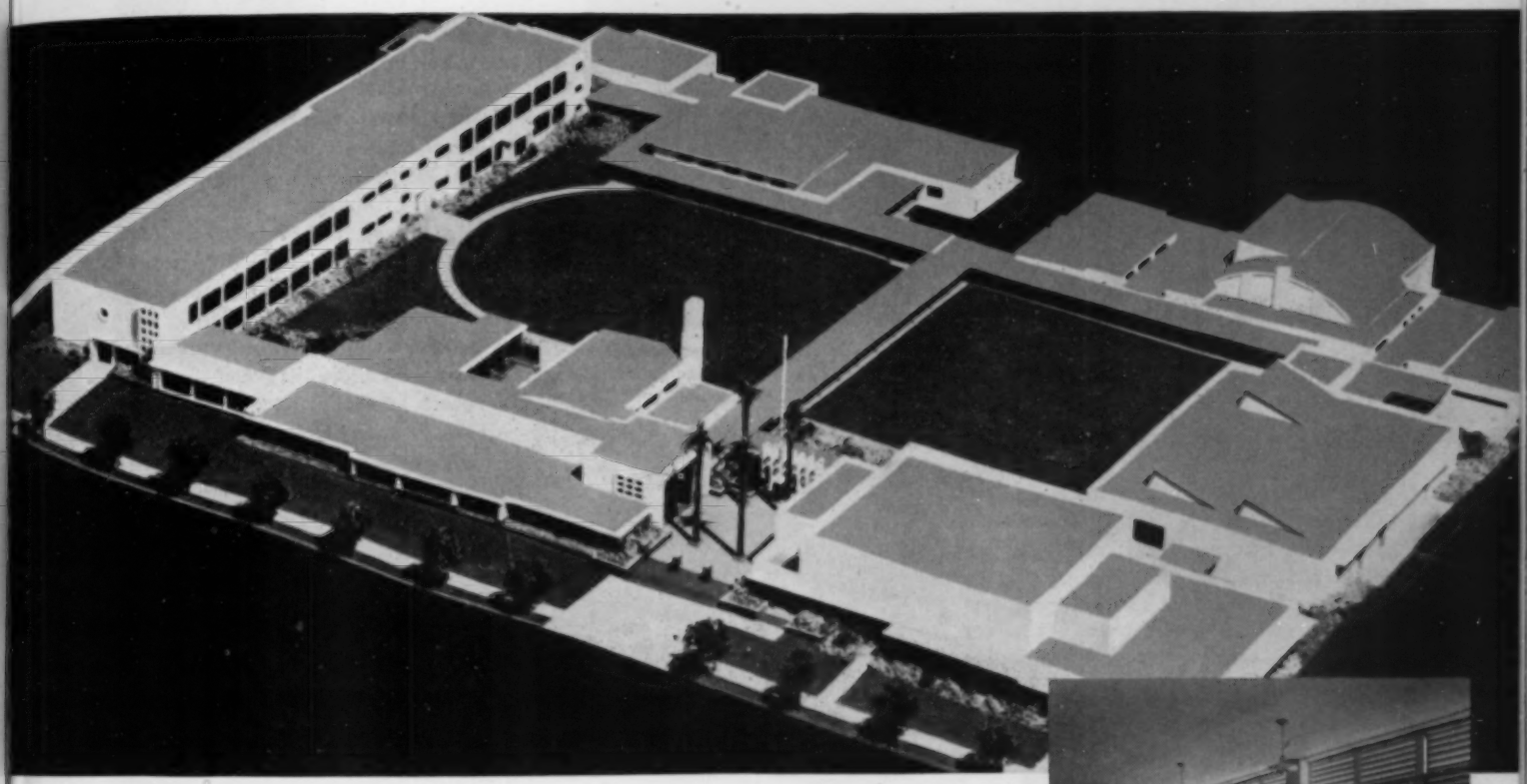
Construction awards for the first five months of 1950 show a substantial gain of 12 per cent over last year. Residential totals for May of $54 million are over $6 million ahead of May 1949. Ontario registered an impressive gain of $10 million in residential contracts. Figures are from Maclean Building Reports Ltd.

New construction jobs include a $3 million pulp mill extension in Northern Ontario and a $3 million bridge at Ottawa. A high school in Montreal and another in British Columbia are valued at over $1 million each. Central Mortgage & Housing Corp. is backing two new housing developments in Ontario, and work is starting on a privately developed apartment plan in Ottawa.

Comparative May figures for the four classifications show gains for residential

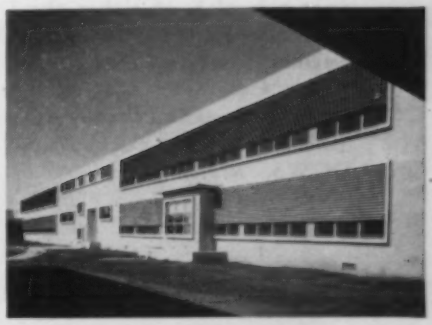
(*Continued on page 204*)

How a School with *14 Sides* Utilizes *free* Natural Daylight



There's a popular old song that tells us "The Best Things in Life Are Free". When it comes to illuminating schoolrooms, that certainly is true because there's no better light than daylight and it's FREE. Architects Austin, Field & Fry took full advantage of natural daylight in designing the Sun Valley Junior High School. First, they designed a building with two hollow squares making daylight available on 14 sides. Then they specified Ceco Steel Windows. In that way, they assured more natural daylight because steel windows admit more light than any other type of window opening. And, finally on the sides where brightest sunlight prevailed, fixed horizontal overhangs and stationary louvers were provided as controls. The result —a properly daylight-illuminated school. To be doubly sure of a better structure and economy in building, concrete joist construction was specified, using Ceco Removable Steelforms and Ceco Reinforcing Bars.

Stationary steel louvers were employed to control light, deflecting it to the ceiling.



Outside view showing stationary steel louvers which eliminate high brightness areas in rooms.

CECO STEEL PRODUCTS CORPORATION

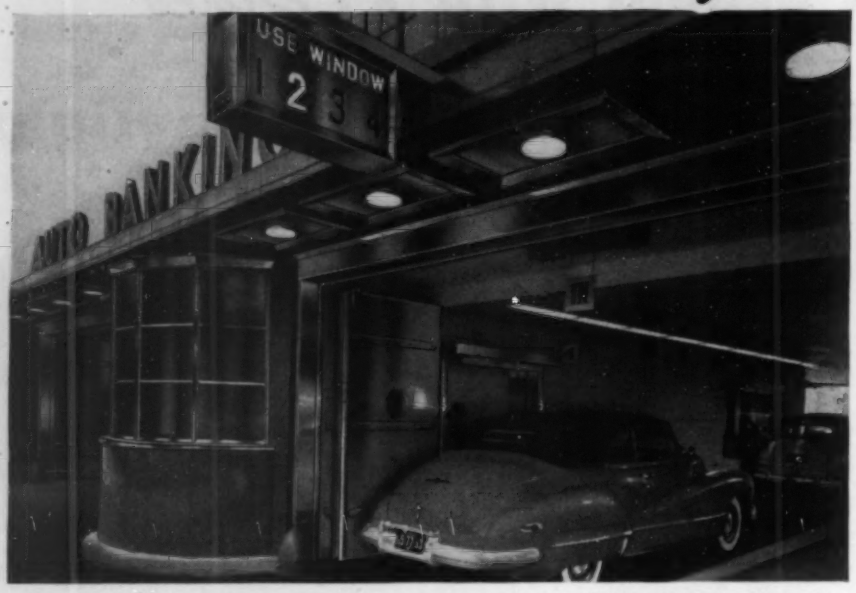
General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

CECO STEEL ®

In construction products **CECO ENGINEERING** *makes the big difference*

Ideas for Auto Banking . . .



Michigan National Bank
Saginaw, Michigan

with H·H·M *Drive-in* or *Walk-up* windows

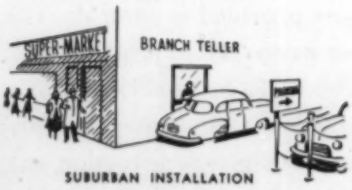
Auto Banking is here to stay by popular acclaim! Its convenience attracts new business, and makes regular depositors of those unable to use lobby service. It saves depositors' time as well as your own. It saves lobby and work space. It shortens window lines.

Let the H-H-M Man help you offer this needed, profitable banking service. He can show you why *the public recognizes it as banking service fitted to the facilities for driving and parking automobiles.*

He can offer you both DRIVE-IN and WALK-UP Auto Banking ideas for new or present buildings. Depending upon your location and building program it may be to your interest to offer Walk-Up facilities . . . or, arrange for a Branch Teller (not a bank), of either the Drive-In or Walk-Up type, in your suburban business centers. Send for a copy of "New Customer Appeal" describing the functional advantages of H-H-M Stainless Steel DRIVE-IN WINDOWS. Write today.

DRIVE-WAY INSTALLATION

WALK-UP INSTALLATION



SUBURBAN INSTALLATION

REPRESENTED HERRING-HALL-MARVIN SAFE CO. HAMILTON, OHIO, U.S.A. WORLD WIDE

HERRING-HALL-MARVIN SAFE CO.

HAMILTON, OHIO

Builders of the world's finest . . . Rotary Record Files • Insulated Record Files • Steel Transfer Files • Safes • Money Chests • Vault Doors • Bank Vault Equipment Drive-In Windows • Night Depositories • Stainless Steel Hospital and Building Equipment

THE RECORD REPORTS

WASHINGTON

(*Continued from page 16*)

that there is plenty of money. If people can be brought to realize the value of a proper kind of education, and an adequate education, they will find the money. Dr. Givens is confident of this. They just haven't been able to appreciate the situation yet, he said.

Private school officials would welcome a sizable federal construction program but are not looking to Congress for it this year. There are bills pending which would funnel from $300 million to $500 million in federal funds into school construction programs, carried forward under supervision of the individual states. But this would bring little in the way of assistance now. For one thing, the allocations under the federal legislation would be spread over a period of years. N. E. A. says the vital need is for the school building program to be doubled now, for it to continue at the increased pace until 1960 at least.

The requirement for new schools is placed second in importance only to the need for additional teachers. But the Association feels there will be a gigantic shortage of places to teach children when the teacher supply has been augmented. That shortage is all too evident today. It is shown graphically in the denial of an adequate education to hundreds of thousands of children, in multiple shifts and in too-high teacher loads.

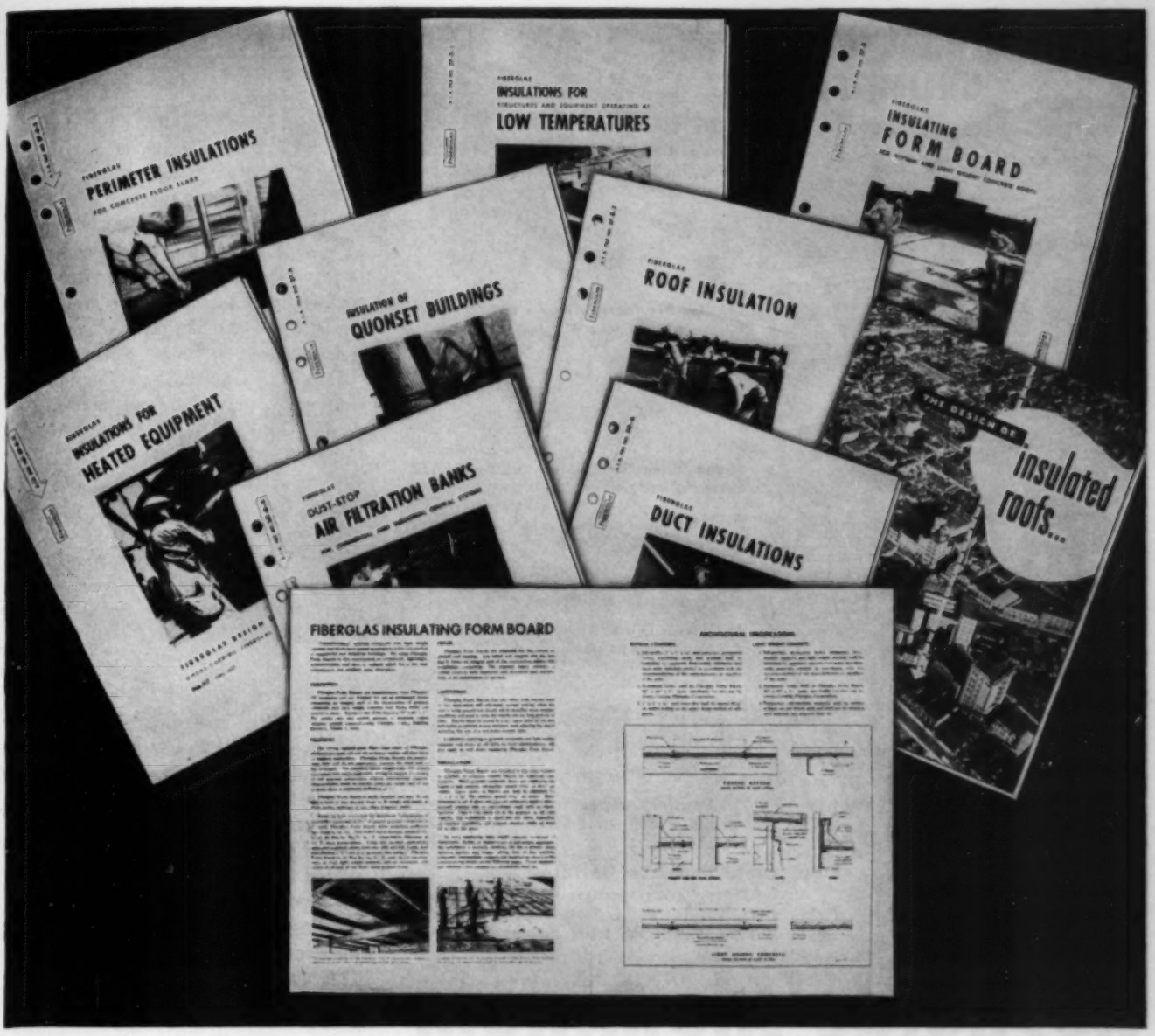
Dr. Givens explained that when superintendents have no money for new buildings, they crowd far past the limits of existing structures. Then they go on schedules that deny a full day of schooling to hundreds of thousands of youngsters.

The problem is likely to be around for some time, with more money for buildings the only answer.

College Program Progresses

Meanwhile, activity signs were beginning to show on the college housing front. The Housing and Home Finance Agency, designated by Congress to administer the new $300 million loan program, said it expects to receive from 500 to 700 applications during the 1951 fiscal year. The Housing Act of 1950 authorized HHFA to handle the aid. Spokesmen assured private architects they would be called upon to design all

(*Continued on page 20*)



QUICK FACTS FOR YOUR FILES

Have you the facts in these Fiberglas* Design Data Books—all prepared especially for A.I.A. Files? Several have been issued as recently as June and July, 1950. More are coming! We'll continue to keep you posted.

Fiberglas Design Data Books have won Certificates of Merit from the A.I.A. and Producers' Council Inc.—awards given for product literature of a character which best serves the architect in the selection and specification of building materials.

Check your files today! Be sure you have the latest issues of the Fiberglas Design Data Books listed below. Order by titles only.

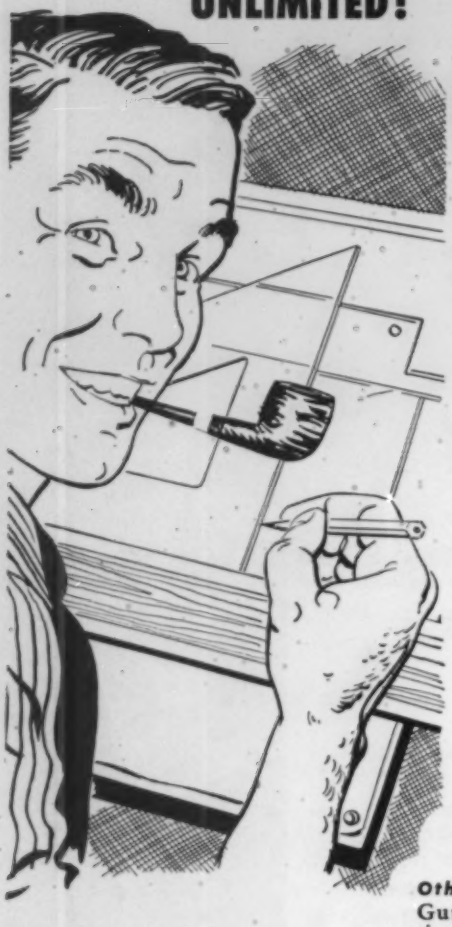
A.I.A. File No.	Title and Issue Date	A.I.A. File No.	Title and Issue Date
30-D-3	Fiberglas Dust-Stop Air Filtration Banks for Commercial and Industrial Central Systems. July, '50	37-B-2	Fiberglas Roof Insulation. Rev. Jan., '50
30-D-2	Fiberglas Insulations for Heated Equipment. June, '50	37-B	Fiberglas Insulating Form Board. Nov., '49
30-D-1	Fiberglas Insulations for Structures and Equipment Operating at Low Temperatures. June, '50	37-A	Insulation of Quonset Buildings. Sept., '49
37	The Design of Insulated Roofs. Rev. April, '50	37-B-3	Fiberglas Perimeter Insulations for Concrete Floor Slabs. Rev. July, '50
		30-A	Fiberglas Duct Insulations. Aug., '49

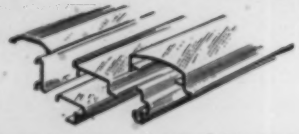
OWENS-CORNING
FIBERGLAS

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

Write: Owens-Corning Fiberglas Corporation, Dept. 68H, Toledo 1, Ohio

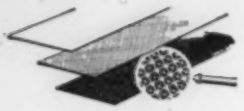
ARCHITECTURAL USES UNLIMITED!



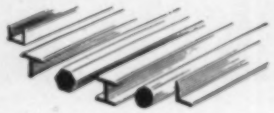


Extruded Shapes *for thresholds, jambs, sills, copings, etc. Both standard and special designs.*

Tubular Products, *like other standard items, may be ordered from a warehouse in your area.*



Sheet *is available plain or with embossed, corrugated and perforated patterns.*



Structurals *in all forms; angles, channels, tees, etc. Also rod and bar stock.*

Ornamental Castings *produced to your specifications by independent foundries from Reynolds Aluminum ingot.*

Other Aluminum Building Materials— Gutters, Downspouts, Reflective Insulation, Roofing and Siding, Built-up Roofing, Nails, Windows, Roll Formed Shapes.

Reynolds Aluminum

A COMPLETE ARCHITECTURAL SERVICE AT THE OTHER END OF YOUR 'PHONE

Aluminum is the most tempting of metals for so many architectural applications! Its low cost—its light weight—its STRENGTH—its natural beauty—its freedom from rust and corosion problems—these qualities are making and keeping it first choice with an ever increasing number of architects and fabricators.

To meet this steadily growing demand Reynolds has set up a special and complete sales and distribution service. This means practical and fast-moving response to your "on-the-job" requirements.

For this prompt action, just 'phone the nearest Reynolds office. Look under "Aluminum" in your classified directory or write direct. There's an architectural specialist to work with you on new designs—to follow through with the fabricator on delivery of standard items from a Reynolds distributor warehouse—to speed up shipment of specials to meet your building schedules.

SEND TODAY

Reynolds Architectural Folio includes complete data and drawings you can use for direct tracing. Write to Reynolds Metals Co., 2572 South Third Street, Louisville 1, Ky.

REYNOLDS Architectural ALUMINUM

A COMPLETE ALUMINUM SERVICE TO ARCHITECTS AND FABRICATORS

THE RECORD REPORTS

WASHINGTON

(*Continued from page 18*)

structures approved. Institutions (colleges and universities) will let contracts to private construction firms after open competitive bidding. The federal housing agency will make periodic construction advances.

Indications are that applying institutions will request loan funds in excess of double the $300 million authorized by Congress. The guess that from 500 to 700 applications will come in the first year is based on early correspondence and is said to be a conservative one.

Eligibility of the applicant and need for the college housing will be determined with the assistance of the Office of Education.

National Hospital Program

The total estimated cost of all projects approved in the Public Health Service hospital construction program was nearing the $1 billion mark on June 1. It was apparent this high figure was to be surpassed by mid-year. Public Health reported that all projects in the program to June 1 numbered 1340. Aggregate building cost was set at $919,625,112, the federal share being $327,507,808. This amount of construction will add 64,483 beds in new hospitals and 247 health centers to the nation's supply.

Of these projects, 177 were in operation by June 1, 689 were under construction, and 476 had passed the initially approved stage.

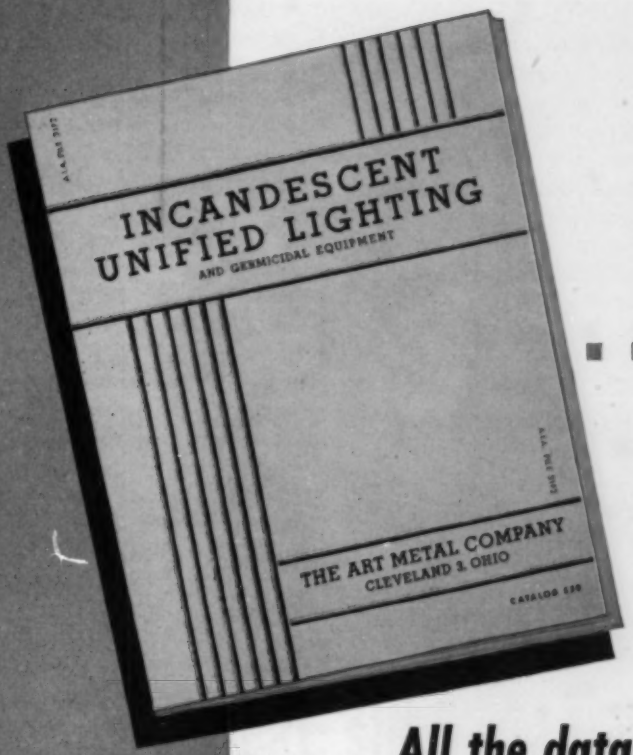
Construction Estimates Up

At mid-year the Department of Commerce and Labor lifted the sights on their estimates of total construction activity for 1950. Now, they say outlays for new building of all types this year will reach nearly $26 billion. It was noted that the estimate was prepared before the international crisis developed so suddenly late in June.

This unprecedented volume of expenditures for new construction is anticipated on the basis of record-breaking activity during the first half of the year, the agencies said. They saw no indication of a marked let-up in the building boom during the second half.

The new $26 billion total is 14 per cent above the revised estimate of $22.6

(*Continued on page 22*)



....For the FIRST TIME

All the data you need to specify and use

Incandescent Lighting

A new and different catalog presentation containing:

Incandescent lighting equipment of all types . . . classified as to use.

Explicit information in easy-to-use form.

- **99 Product Illustrations**
- **51 Cross Section Details**
- **47 Light Distribution Curves**
- **24 Coefficient of Utilization Tables**
- **Detailed Product Specifications**
- **General Engineering Information**

Your catalog is ready . . . Ask for it!

THE ART METAL COMPANY • CLEVELAND 3, OHIO

Manufacturers of Unified Lighting Equipment for Office, Store, School, Hospital and Hotel

There's an Art Metal Incandescent Unit for every lighting need.

Art Metal Unified Lighting, standardizes the design, style, and finish of each unit, to achieve an architecturally integrated installation.

The ART METAL Company
1814 East 40th Street, Cleveland 3, Ohio

Gentlemen: Kindly send me a copy of the new, free ART METAL CATALOG.

Firm_____

Name_____ Title_____

Address_____

City_____ State_____

WASHINGTON (*Cont. from p. 20*)

billion spent in 1949. During the first six months of 1950, expenditures for all types of construction ran 17 per cent above the corresponding period of 1949. Yet, the departments said they foresaw a seasonal downturn in construction in the late fall and winter this year. Such a trend would be in contrast to last year's contra-seasonal increase which made itself particularly evident in home-building.

The six months summary showed outlays for new private non-farm housing to be 48 per cent above the 1949 first-half volume. Expenditures for hospitals, schools, reclamation and flood control projects also were substantially higher, but highway construction was at about the same level as in 1949.

Private expenditures for new dwelling construction for all 1950 are expected to reach $10 billion. These were $7.3 billion in 1949. Outlays for public housing in 1950 now are placed at something just over the 1949 level, spurred by the public housing program authorized in the Housing Act of 1949.

The joint department release said that indications now point to 1,125,000 new dwelling units being placed under construction during the current calendar year. This includes some 50,000 public units. However, it would surpass greatly the 1,025,000 volume now officially recorded for 1949, and the previous high point of 937,000 units reached in 1925.

Commerce and labor noted that construction of stores and other retail establishments has expanded in recent months. Industrial construction, after a three-year decline, has turned upward. Public utility construction is declining slightly, especially in the communication facilities. Farm construction outlays are at a lower rate than last year; or were, as of July 1.

The high level of construction activity in evidence since last fall has brought pressure to bear on supplies of building materials and skilled labor. There are spot shortages of some materials but no general breakdown in the line of supply is expected at this time. The federal agencies point out that increased production of materials and additional skilled craftsmen made available through apprentice training programs should prevent any serious over-all supply difficulties such as those experienced immediately after World War II.

Maximum Lender Charges

In mid-July, the Federal Housing Administration made effective a new schedule of maximum fees and commission charges that lenders can assess builders. The regulation applies, of course, only to financing of housing covered by FHA loan insurance and VA guarantees. The new schedule applies for all applications received on or after July 17. It is part of certain actions ordered in the Housing Act of 1950.

Maximum interest rate on construction advances is set at five per cent. Lenders can charge builders a service fee of not more than two and one-half per cent of the amount loaned in the advance. This service charge is meant to cover supervision of the loan, handling of periodic advances, clearance of liens and other "overhead."

Where the lender financing the construction loan also finances the mortgage (or permanent) loan of the purchaser, no additional service charge can be made

(*Continued on page 24*)

Architects—Holabird, Root and Burgee

ADVANTAGES OF

"Trueline" ALUMINUM DOORS

made them first choice for the

New Weiboldt Store • Evanston, Ill.

- **Highest Quality Construction**
- **Complete Visibility**
- **Low Cost**
- **Ease of Installation**—Designed and fabricated into a packaged unit.
- **Low Maintenance**—Doors in operation over a long period show minor maintenance requirements.
- **Versatility**—Can be used with overhead door checks, floor checks or magic eyes.

Our service to Architects includes prepared details and design assistance—write for further information

CRANE FULVIEW GLASS DOOR CO.

4616 NORTH CLIFTON AVENUE
CHICAGO 40, ILLINOIS

Positive Heat shut-off at Each Radiator

The $10 million Park View development in Collingswood, N. J., is the largest post-war apartment in the Philadelphia area. The arresting design with an almost unbroken expanse of window space has won professional acclaim. Television, radio and newspaper promotions have brought thousands to the model apartment.

The owners of Park View put comfort first. They provided a "Controlled-by-the-Weather" Webster Moderator System of Steam Heating. With fully recessed Webster System Radiation . . . Convector Radiators with built-in radiator trap and valve. Each radiator has a convenient, accessible, easy to operate handle providing complete shut-off at tenants' convenience.

With the Webster Moderator System, heat is delivered continuously – plenty of heat in really cold weather, mild heat for mild days. The supply of steam is varied automatically with changes in the weather. There's a Webster Radiator Valve for 100% heat shut-off from each radiator – no dampers are needed.

Park View is owned by Sylvester A. and Sylvester J. Lowery. The Builders are S. J. Lowery and E. J. Frankel. The architects were J. Raymond Knopf and Samuel J. Oshiver (associate). Engineers included Robert E. McLoughlin, Salvatore S. Guzzardi, and Robertson & Johnson. The heating contractor was Benjamin Lessner Co., Inc.

Park View interior showing Webster System Radiator. Flush-with-wall, takes no useable room space. Metal front provides easy access if necessary. Convenient, quick shut-off handle.

Park View was financed through County Trust Co., Tarrytown, N. Y., with the Seaman's Bank for Savings of New York as permanent mortgagee. It is insured by FHA.

For information, address Dept. AR-8

WARREN WEBSTER & COMPANY
Camden 5, N. J. Representatives in Principal U. S. Cities
In Canada, Darling Brothers, Limited, Montreal

WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

SPANJER LETTERS

THE STANDARD OF QUALITY FOR EXTERIOR and INTERIOR SIGNS

Spanjer metal letters used at all the exterior entrances and wood letters used for interior identification signs throughout the new, modern Wieboldt store in Evanston, Illinois, have added immeasurably to the modern design and appearance.

When Spanjer letters are specified, there is always the assurance that your clients will have a quality product; the best they can get. This means architecturally correct form and proportion . . . design that is authentic . . . careful manufacture with highest grade materials . . . all based on more than fifty years of craftsmanship. Spanjer letters are made in a variety of styles to conform to any achitectural treatment and are applicable for a wide range of use.

Architect: Holabird, Root & Burgee
Photograph: Hedrich-Blessing
Exterior Installation: Fed. Enterprises Inc.

This newly printed Spanjer catalog will be invaluable for use in selecting a variety of designs and styles. It also illustrates outstanding uses and applications of metal letters.

SPANJER BROTHERS INC.
267 Mt. Pleasant Ave., Newark 4, N. J.
1158 N. Howe St., Chicago 10, Ill.

SPANJER BROTHERS INC., 1158 N. Howe St., Chicago 10, Ill.
Please send me, without obligation, your 20 page catalog.

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

WASHINGTON *(Cont. from p. 22)*

on the permanent financing. On other sales of new and existing homes a flat fee of not more than one per cent continues to be allowable. This is charged by the lender to the builder if the lender does not make the construction loan but does sponsor the permanent loan.

All this means new problems for the builder. The National Association of Home Builders pointed out that it now requires housing contractors to function under new "limitations imposed." Henceforth, builders and lenders must certify that no fees in excess of the maximums established have been paid or imposed.

The announcement of the new regulation came from FHA Commissioner Franklin D. Richards and Veterans Administrator Carl Gray, Jr. But it was Raymond M. Foley, Housing and Home Finance Agency head, who got the two agencies together to work out the details.

Builders also can be required to pay recording fees, appraisal and inspection costs under the new rules. This regulation takes care of a wide difference in local and state legal practices. Many localities require such fees be paid, some do not.

Excessive construction loan charges have become a serious problem in many areas; probably more serious than federal officials will concede. Be that as it may, the new restrictions curb the former off-color practices and presumably impose a legal check rein on the activity. Congress showed itself fully aware of the overcharge situation — or at least the Banking committees did — when directions for the new regulations were written into the Housing Act.

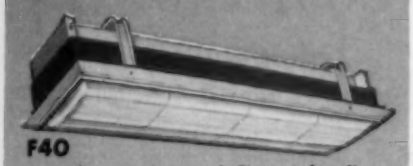
FNMA Switch Gets Attention

The plan to provide new legislation to control a modified Federal National Mortgage Association program gained momentum on Capitol Hill. Hearings were held last month (beginning July 10) on the new bill introduced by Senator Burnet Maybank (D-S. C.), chairman of the Banking committee. As explained by the Housing and Home Finance Agency, this measure would assist in returning the secondary credit operations of the FNMA to a stand-by source of liquidity for private holders of FHA-insured and VA-guaranteed home loans. At the same time, it would reduce the impact on the budget caused by government purchase of such mortgages from initial lenders.

Incorporated in the Maybank Bill is a request for $250 million in additional purchase authority for the secondary market agency. This, if approved, and enacted into law, will bring the total FNMA operation up to the sizable $3 billion level.

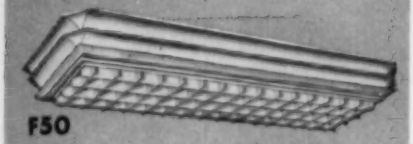
An important part of the proposal is the creation of private national mortgage corporations to be chartered by the HHFA. These private national entities would purchase, service and sell government-backed mortgages, borrowing money for the operation. Each corporation would have a capital stock of not less than $1 million par value. It could begin operating when the stock had been subscribed for, and at least 25 per cent of it paid in. Each corporation would be authorized to issue and have outstanding obligations up to 25 times the amount of its capital stock and surplus.

(Continued on page 174)



F40

Joleco's new Recessed Fixture for fine store and office lighting . . . available in 2 or 4 lamps with shielding of either Aluminum Louver, Inverted Flush Aluminum Louver, Corning "Alba-lite" Glass, Corning "Fresnel" Lens or Formed "Plexiglas".



F50

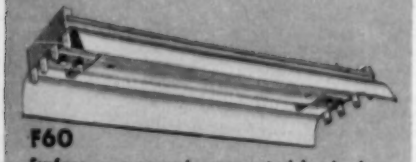
A surface or suspension mounted fixture designed as a companion to F40 . . . available in 2 or 4 lamps with shielding of either Aluminum Louver, Inverted Flush Aluminum Louver, Corning "Alba-lite" Glass, Corning "Fresnel" Lens or Formed "Plexiglas".

F56

Single-lamp, surface or suspension mounted fixture . . . ideal for corridors, lobbies, meeting rooms, dining rooms, cafeterias and similar installations . . . streamlined, plastic shield of pleasing appearance, non-breakable, shatter-proof and light in weight.

F510

Four-lamp, surface mounted shielded unit for store lighting . . . Corning "Alba-lite" glass shielding produces shadowless illumination and excellent distribution of light on shelves and displays . . . easily and inexpensively maintained.



F60

Surface or suspension mounted luminaire for factories, warehouses, drafting rooms, laboratories . . . available in 1, 2 or 4 lamps . . . economical in first cost, installation and upkeep.

All of the Joleco fixtures shown can be installed as individual units, in patterns or in continuous rows. They are available for use with pre-heat or instant start Fluorescent and 4 foot or 8 foot Slimline.

©1950

ILLUMINATION

Illumineering®

ENGINEERING

THE RESULT OF

Progressive Design

by JOLECO . . . .

Out of our program of continuing research in lighting has come a new concept which we choose to call *Illumineering*—a composite of ILLUMINATION and ENGINEERING.

This *Illumineering* approach "remembers" lighting requirements, efficiency factors, design and appearance, plus installation, maintenance and inspection features. All of these are built into every JOLECO luminaire to insure complete approval by buyer and seller.

We are now compiling our "Illumineering Data Book." Basic *Illumineering* and fixture data is ready. Continuing studies and features will be added as completed. Be sure your name is on the mailing list for this valuable information. Write today.

JOLECO Corporation

Designers and Manufacturers of LIGHTING FIXTURES

2521 BALDWIN STREET ST. LOUIS 6, MO.

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1945	160.5	161.7	156.3	158.0	155.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
Mar. 1950	244.9	242.0	243.4	246.0	242.2
April 1950	246.2	243.6	243.6	246.1	242.5
May 1950	250.8	248.9	245.4	247.7	244.3
	% increase over 1939				
May 1950	**103.1**	**103.3**	**87.8**	**85.7**	**87.8**

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1945	132.1	133.9	123.2	122.8	123.3
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
Mar. 1950	186.9	188.4	180.3	179.4	178.8
April 1950	187.9	189.7	180.5	179.5	179.0
May 1950	190.9	192.9	181.0	179.9	180.7
	% increase over 1939				
May 1950	**121.2**	**132.1**	**90.3**	**84.7**	**90.8**

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1945	152.8	152.3	146.2	148.5	145.6
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
Mar. 1950	222.8	221.2	215.8	219.1	217.6
April 1950	223.1	221.6	215.9	219.1	217.7
May 1950	231.5	229.8	219.8	222.4	221.5
	% increase over 1939				
May 1950	**110.1**	**114.8**	**85.2**	**85.6**	**86.1**

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1945	146.2	144.3	144.5	146.8	147.9
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
Mar. 1950	216.7	211.0	218.1	221.6	218.3
April 1950	216.7	211.0	218.1	221.6	218.3
May 1950	224.8	220.4	220.1	223.1	220.8
	% increase over 1939				
May 1950	**112.9**	**122.0**	**87.5**	**83.0**	**89.5**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

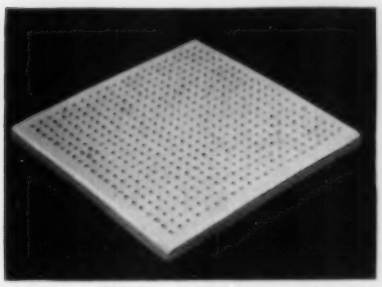
Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.

Quiet Dignity

CERTILE AND CERTACOUSTIC INCOMBUSTIBLE ACOUSTICAL TILE . . .

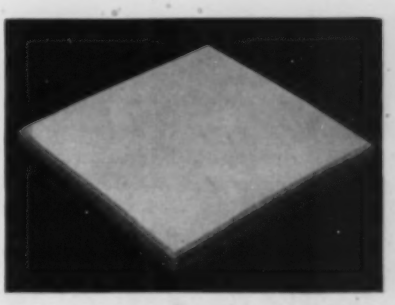
. . . in keeping with the carefully appointed office of the discriminating executive . . . the luxurious comfort of the club lounge . . . the subdued elegance of the concert hall . . . or wherever Quiet Dignity is called for.



Certile and Certacoustic

are highly efficient sound absorbing tiles made of Fiberglas. Available in standard sizes and thicknesses . . . perforated and plain surface.*

*T. M. REG. U. S. PAT. OFF. BY OWENS-CORNING FIBERGLAS CORP.



Approved acoustical applicators are available for consultation and advice. Contact one of these district sales offices for the name of the applicator in your area:

Atlanta, Ga. • Chicago, Ill. • Cleveland, Ohio • Dallas, Tex. • Detroit, Mich. • East St. Louis, Ill.
Kansas City, Mo. • Niagara Falls, N. Y. • Philadelphia (Ardmore), Pa. • Salt Lake City, Utah
Richmond, Calif. • St. Paul, Minn.

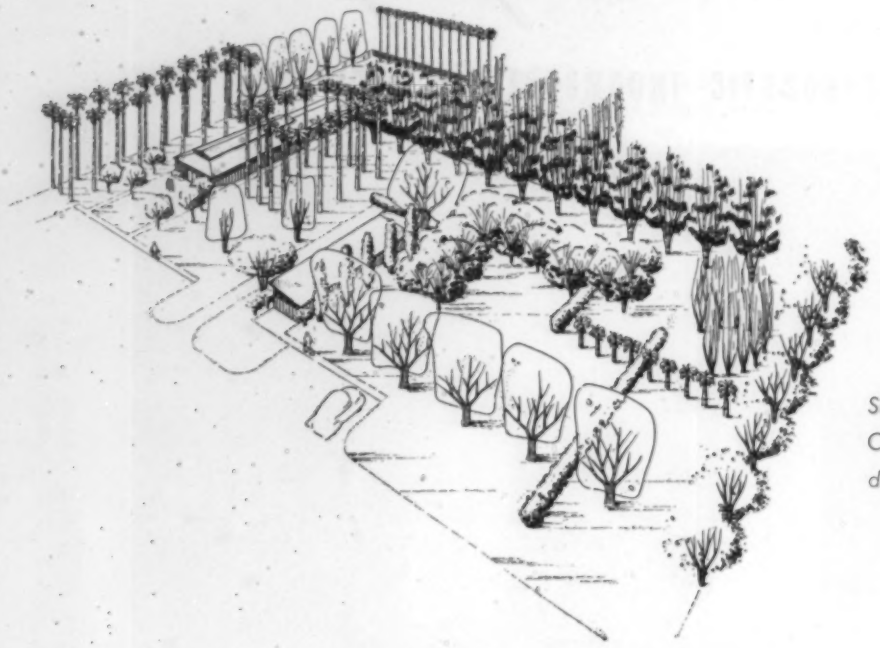
Quality made Certain . . . CERTAIN-TEED PRODUCTS CORPORATION

Certain-teed ACOUSTICAL PRODUCTS

. . . Satisfaction Guaranteed ARDMORE, PENNSYLVANIA, U. S. A.

ASPHALT ROOFING • SHINGLES • SIDINGS • GYPSUM PLASTER • LATH • WALLBOARD • ACOUSTICAL TILE • INSULATION • FIBREBOARD • ROOF DECKS

REQUIRED READING



Study pattern for Texas Community Center. Tree, grass, shrub relations indicated. Eckbo, Landscape for Living

GARDEN VARIETY

Landscape for Living. By Garrett Eckbo. An Architectural Record Book with Duell, Sloan & Pearce (119 West 40th St., New York 18, N. Y.) 1950. 8⅜ by 10¾ in. 262 pp. illus. $10.00.

REVIEWED BY ROBERT W. KENNEDY

Landscape for Living is perhaps the second book to be written on contemporary landscape design. Christopher Tunnard's *Gardens in the Modern Landscape* is the only other one I know of. That in itself is enough to recommend it. In addition it is an excellent book of a certain unique, and to me, very appealing variety. It is the kind of thing that artists write about in their art, and it has all the strength and weaknesses of its type. Like most artists, Mr. Eckbo distrusts words. "The danger of words is that they can distort and distract," he says. One feels he is more at home at the drawing board and on the job than he is writing. Even though his book is almost exclusively concerned with theory, it is the theory of the doer, of the essentially creative person. Again like many artists, he has a cosmic way with words. MAN, EARTH NATURE, BUILDING NATURE, TIME SPACE PRESENTATIONS and the like resound as one from every page of the text. Once one gets the hang of them they become effective image producers, and more important still, seem to put one in personal communication with Mr. Garrett Eckbo. For myself I was really delighted to make his acquaintance.

The principal theme of the book, as one might expect from such an able designer, is that landscape architecture is an art on a par with the others. Every paragraph, every sentence, almost every word is designed to drive the idea home. The technique of the landscaper is considered solely and consistently from the point of view of the artist. Space, materials, human reactions are all analyzed with one end in view — a work of art. Nothing which might bear on the business of making people happy outdoors is left out, or left unconsidered. One direct product of these virtues is that this is not a "how to do it" book. It contains no hint of three easy ways to design your garden in your spare time. Mr. Eckbo goes at it in the long, hard laborious way of the professional, and loves it.

The secondary theme, reiterated again and again in varying contexts, is the importance of synthesis or integration or cooperation of ideas and things and disciplines. "We (landscapers) work in from the natural periphery toward the refined core, the architects and engineers work out in reverse directions, and we cannot stop where we meet without establishing a boundary that defeats our objectives. We must overlap as a beginning, and become increasingly collaborative as we proceed." Boundaries, divisions, limits, the myriad human devices for keeping people and things apart are attacked and mourned throughout the text.

Finally, I was constantly delighted by Mr. Eckbo's cliche pricking abilities. To pick one example, like a bit of lemon out of a good rum punch, is to exhibit my own prejudices. Nevertheless when he says things like " . . . foundation planting, that great technique for moving miscellaneous nursery stock . . ." I hear that special click inside usually associated with a pregnant slot machine.

CUPBOARDS AND TABLES

Shaker Furniture. By Edward Deming Andrews and Faith Andrews. Dover Publications, Inc. (1780 Broadway, New York 19, N. Y.) 1950. 7⅞ by 10¾ in. 133 pp. illus. $6.00.

In *Shaker Furniture* the Andrews' have collected a sizeable amount of information and photographs which not only show the furniture, but which also give the underlying principles of Shaker craftsmanship.

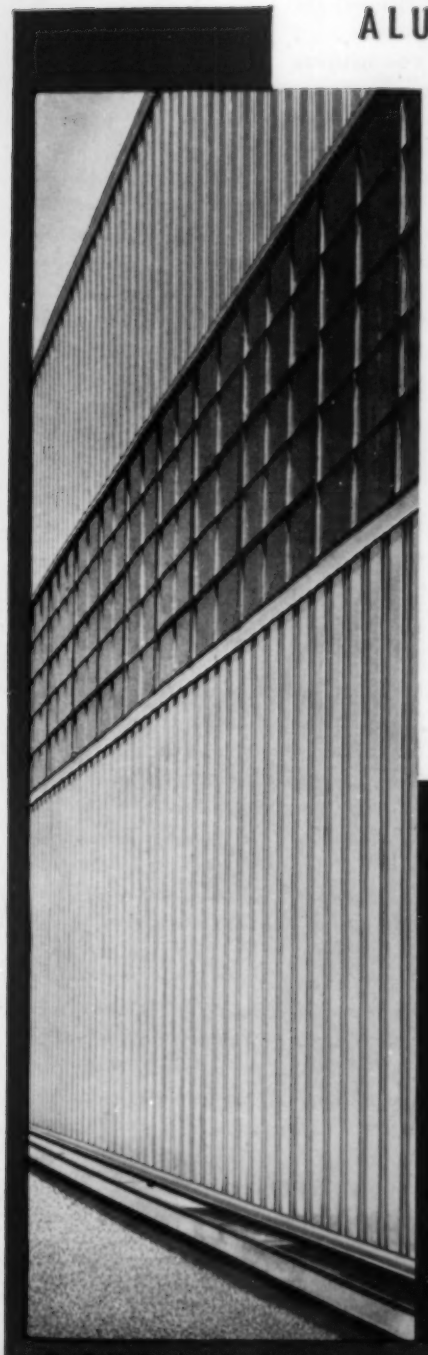
Cultural background is given; its essential character or nature and its craftsmen are described. Documentary material in the form of excerpts from journals, for the most part, further explains

(Continued on page 30)

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

ALUMINUM, STAINLESS or GALVANIZED STEEL

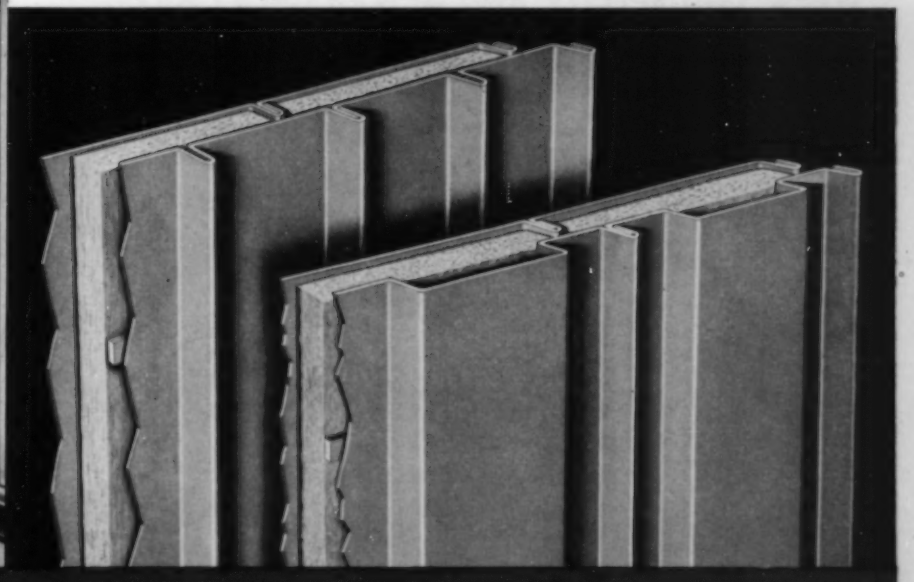


Insulated Metal Walls continue to gain favor with architects and owners throughout the country . . . this enthusiastic acceptance is only natural, because, from any angle, appearance, thermal properties, material cost, or the economies effected through labor-saving rapid construction, they more than justify their selection for any type of industrial or commercial building. Mahon Insulated Metal Walls offer several distinct advantages . . . exterior plates are available in several ribbed or fluted designs in either Aluminum, Stainless Steel, or Galvanized Steel. Individual architectural treatment may be obtained by combining or reversing these exterior plates to form pilasters, coping, and other effects, and, Mahan wall plates can be rolled in any length up to 55 ft. to produce high expanses of wall without horizontal joints — a feature that instantly appeals to architects everywhere. With 2 inches of Fiberglas insulation, thermal properties are excellent—an over-all "U" factor of 0.15. Mahon Insulated Metal Walls in combination with a Mahon Steel Deck Roof provide an ideal type of permanent, firesafe construction which can be quickly and economically erected in any season of the year. See Sweet's Files for complete information or write for Catalogs B-49-A and B.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in Principal Cities

Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Ceilings, Floors, and Partitions; Rolling Steel Doors, Grilles and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



The Budd Manufacturing Company's new plant at Gary, Indiana, illustrated above, is typical of modern Insulated Metal Wall buildings. In this plant 31,000 Sq. Ft. of Mahon Insulated Metal Wall, with aluminum exterior plates, and 300,000 Sq. Ft. of Mahon Steel Deck was employed. Giffels and Vallet, Detroit, Mich., Architects & Eng. The Nielsen Company, Chicago, Ill., Contractors.

MAHON

What causes putty to crack and peel?

. . . perhaps you have wondered why glazing can often cause trouble even when you have carefully specified the proper materials . . . It may check, crack or peel soon after installation. Well, here is our answer taken from our 82 years of experience in the manufacture of putty and compounds . . . experience borne out in extensive tests in the Dicks-Pontius testing laboratory.

ANSWER: If putty checks, cracks or peels there may be one or several causes. Many possible causes ought to be checked.

First, of course, the job requirements should be checked again to be sure the original specification is correct and to be sure that any extreme conditions have been taken into consideration.

Second, the sash should be checked for dirt or excessive moisture conditions. Clips should have been properly installed. Thinners should have been avoided and the putty mixed with *all* the oil that may have separated in the drum. Sash should have been free from jarring and excessive handling until putty had set. Conditions of extreme condensation and moisture during below freezing weather especially should have been avoided.

Third, whether metal or wood, the sash should be painted after proper glazing to prevent excessive drying out and to avoid cracking or peeling. Unprimed wood sash naturally should take special primeless grade putty to prevent trouble. While putty forms a natural film which protects against the elements, it takes paint to seal properly. We recommend painting after putty has set about 14 days. Paint should be brought above the putty line to provide proper seal. If putty is properly mixed and applied it will give years of service.

CHECK THE ABOVE VITAL GLAZING DETAILS WHEN YOU SPECIFY AND ALWAYS PLAY SAFE

DEMAND D-P BRANDS

- NO. 1012 ALUMINUM GRAY GLAZING COMPOUND
- D-P INDUSTRIAL TYPES OF GLAZING COMPOUNDS FOR STEEL OR WOOD SASH
- COMPLETE LINE OF PUTTIES FOR WOOD AND METAL SASH FED SPECS. AND SPECIAL USE
- CAULKING COMPOUND
- WHITE WONDER GENERAL PURPOSE TILE CEMENT

GET THE COMPLETE STORY IN THIS NEW BOOKLET

Write today for the new D-P Catalog

COPYRIGHT 1950 BY DICKS-PONTIUS CO.

The DICKS-PONTIUS Co.

Makers of Quality Putty Products Since 1867

DAYTON, OHIO • Alexandria, Va. • Atlanta, Ga.

REQUIRED READING

(*Continued from page 28*)

the houses and shops as well as livens the study.

Following the text are 48 plates (William F. Winter photographs) and supplementing these, at the end of the book, is a section which gives details of the plates. For example: "The washstand (from the South family, New Lebanon) also serves as a small case of drawers . . ." or, "Pine stools called 'two-steppers,' 'three-steppers' . . . rendered accessible the top drawers of the high Shaker cases or built-in drawers." There are also appendices and a bibliography.

The work is integrated. It shows the many facets of the philosophy of the Shaker sect in order better to present the furniture. An absorbing study, it will be of interest to those designers and architects concerned with restorations, and to those in search of still another aspect of the long story of simple and straightforward design.

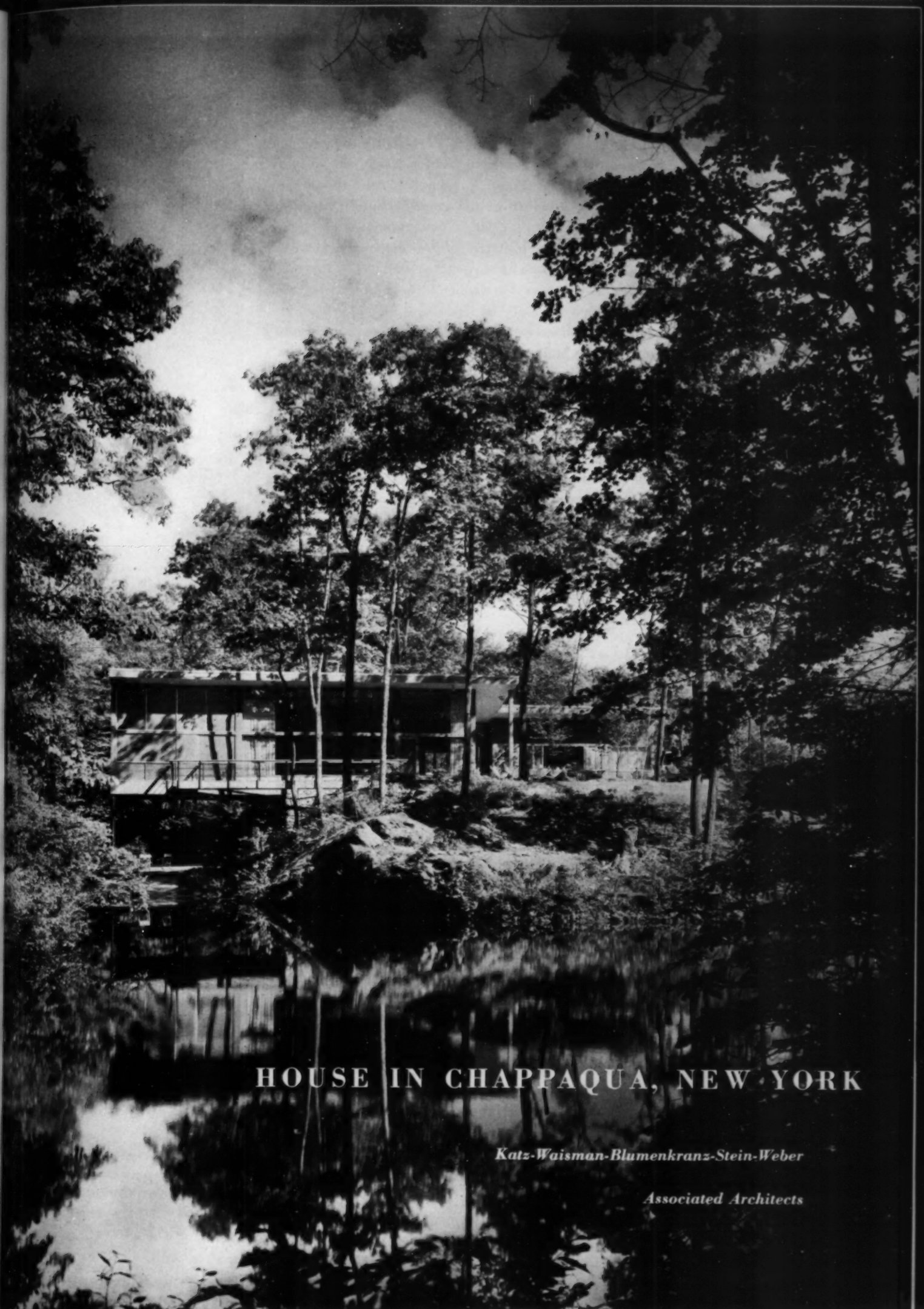
PRINCIPLES

Design This Day. The Technique of Order in the Machine Age. By Walter Dorwin Teague. Rev. ed. Harcourt, Brace and Co. (383 Madison Ave., New York, N. Y.) 1950. 7⅜ by 9½ in. xvii+285 pp. illus. $6.00.

Mr. Teague thoughtfully has suggested in *Design This Day*, not only the nature of the reconstruction process that embraces our entire physical world; he further has shown the principles that must direct those concerned with the current physical world and its design.

A statement of the status quo of design within the reconstruction process leads the reader into specific aspects of design principles found in "Fitness to Techniques," "Unity," "Rhythmic relationships," "Balance and Symmetry," etc. " . . . while leaders shrieked and nations fell, the builders have been at work. The vision of a rebuilt world has grown clearer to more men, and the step-by-step progress toward it does not falter." Here, expressed in a meaningful last chapter ("Program"), is Mr. Teague's essential optimism.

Except for some minor substitutions in its illustrative material plus a few changes in phraseology, the book remains the same as its previous edition. It also remains a small gold mine of information — especially considering the quality and amount of photographs which complement the text.



HOUSE IN CHAPPAQUA, NEW YORK

Katz-Waisman-Blumenkranz-Stein-Weber

Associated Architects

PLANNING, structure, equipment, interior decoration, and landscaping here are integrated to a degree seldom achieved in a house. In particular, the architects wish to stress the exceptional degree of coordination of planning and interior design. The owners wanted a simple house, easy to keep up; household cares should not obtrude unduly on enjoyment of the rural setting. They also wanted individuality, even to specially commissioning some furniture and fabrics. Inside, a coordinated color scheme was developed for everything from walls to hand towels.

To indicate the thoroughness with which equipment was studied: lighting was employed not only for "practical" ends, but to enhance the mood of the house inside and out. General diffused lighting, fluorescent, is built into storage walls and curtain tracks. Recessed in the ceiling are spotlights to raise local lighting levels for card playing or reading, pin-point lights to accent paintings; there is a special free-form fixture over the dining table; outdoor lights bring the surrounding trees and rocks to life after dark and flood the beach for night swimming. Kitchen and other utility areas are well lighted; closet lights have door switches; there are plenty of convenience outlets for future floor lamps.

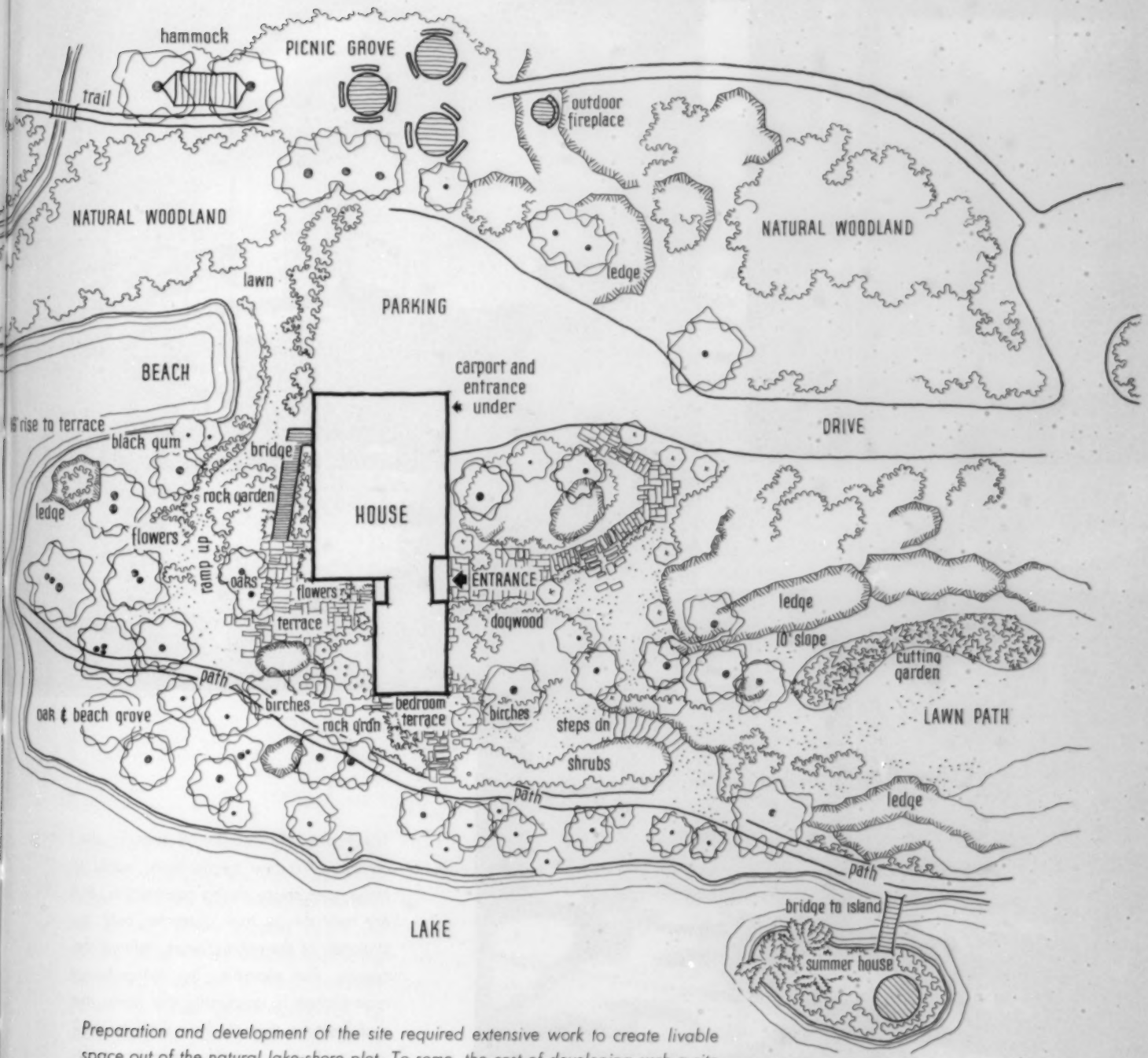
Other types of equipment were equally carefully installed; and it is noteworthy that the gadgets were not allowed to dominate the overall design.

DRETZIN HOUSE

LAKE

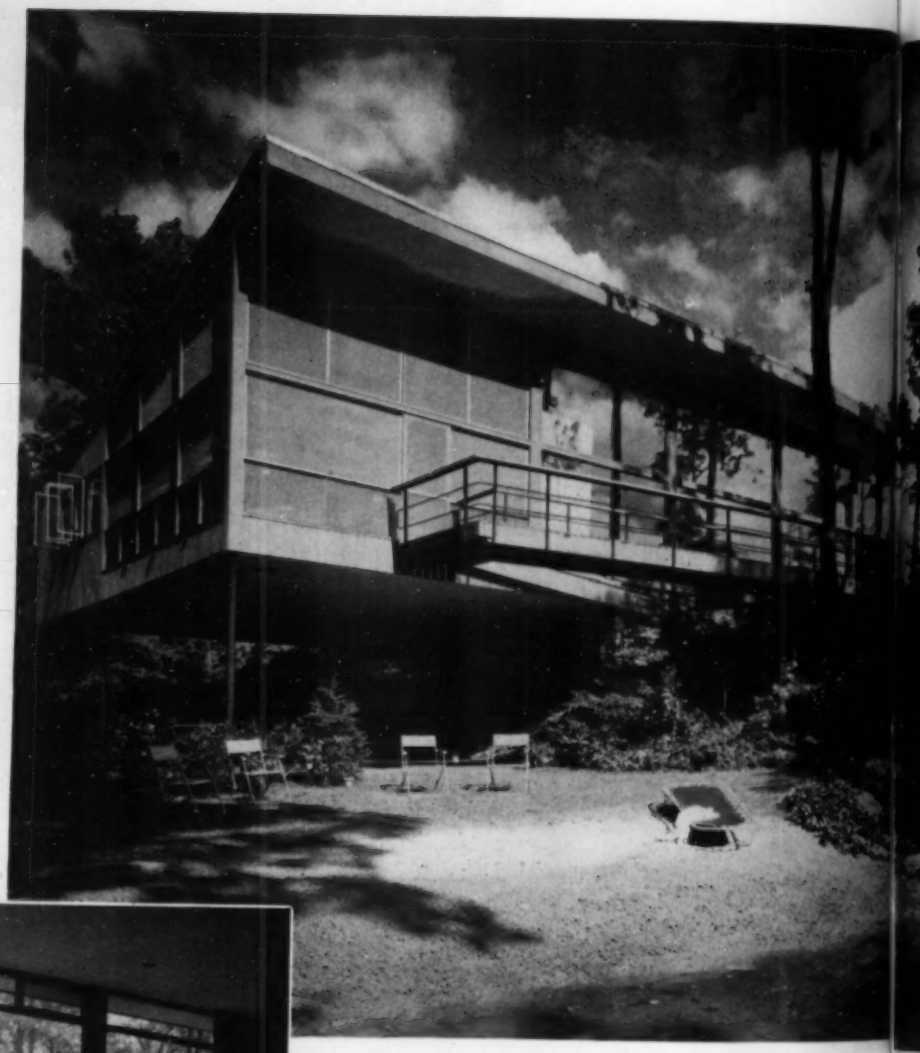
NORTH

Ezra Stoller Photos; Photo preceding page by Ezra Stoller

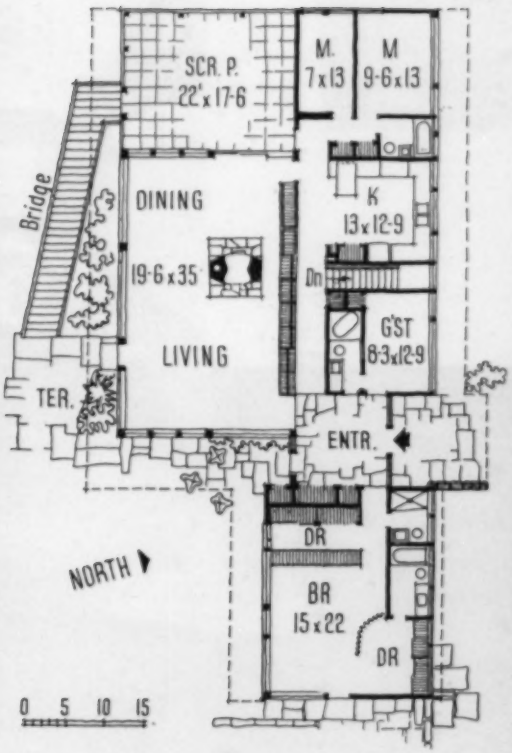


Preparation and development of the site required extensive work to create livable space out of the natural lake-shore plot. To some, the cost of developing such a site might be prohibitive, but once its potentialities had been glimpsed, nothing was allowed to stand in the way of their realization. Natural elements are fully utilized: water, rock, mosses, ferns, wild laurel, evergreens, oaks and beeches for shade

DRETZIN HOUSE



The house, planned for its specific site, consists of a few simple units; each, a large open space during construction, did not take on its true character until installation of the cabinet work defined the spaces. For example, the living-dining room-kitchen is structurally one area, the roof framing through from wall to wall with steel and wood. The necessary sepa-



Ezra Stoller Photos

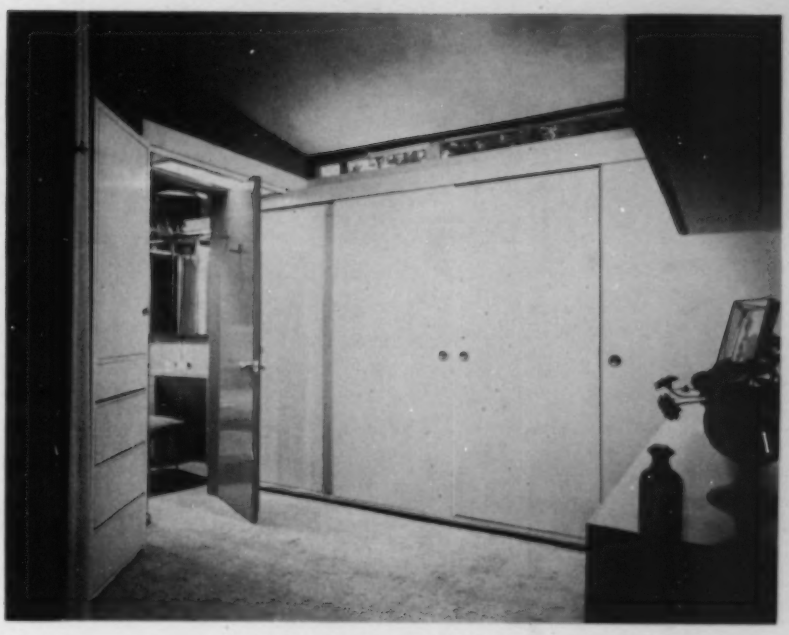
rations are made by fireplace, and by cabinets which form one wall. Above use-height, walls are open except surrounding the kitchen, where glazing keeps out cooking odors without visually obstructing the ceiling's sweep. A fabric specially woven by Trude Guermonprez can be drawn over the glazed south wall of the living room to cut glare and sun

DRETZIN HOUSE

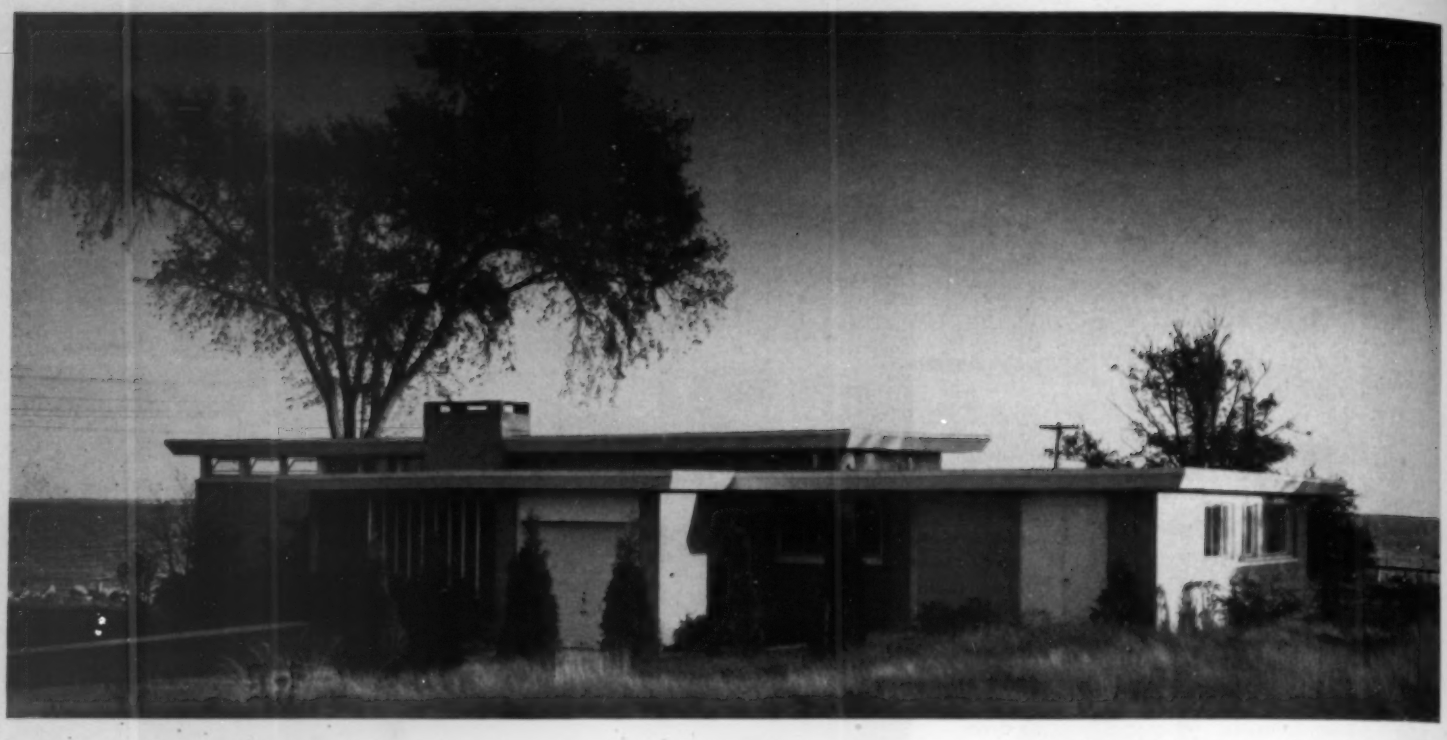
Soffit of the pass-through opening between kitchen and dining area is a lighting fixture; concealed fluorescent lamps above also supply general lighting. Photo immediately below shows dining table of cocobolo wood. This, the coffee table of black Belgian marble in the living room, and the aluminum dining room lighting fixture were designed for the house by Isamo Noguchi

Kitchen equipment (below) is so organized that the room, though not large, is spacious. Walls are washable structural glass; over the range are hood and vent fan. Heat is provided by hot water convectors built-in under windows; same system is used throughout house except for a radiant panel in the upper entrance hall

Ezra Stoller Photos



Mr. and Mrs. Dretzin have separate baths and dressing alcoves off their bedroom. Closets are carefully designed for maximum utility. In Mrs. Dretzin's bath (right) the lavatory counter, finished in sheet plastic matching in color the structural glass walls, has drawer bases and a three-way mirrored cabinet above; the head of the cabinet houses both an overhead light and a plant box set at the level of a row of clerestory windows

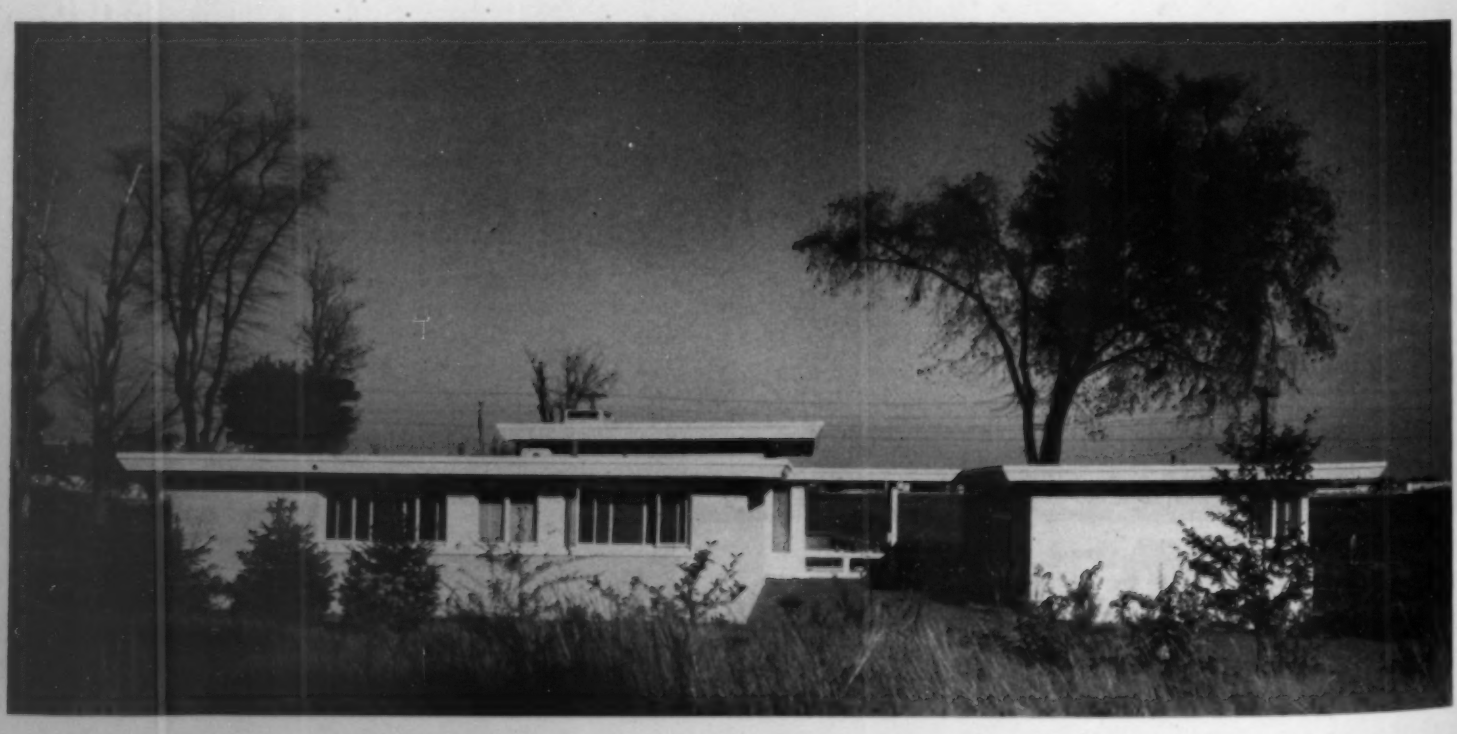


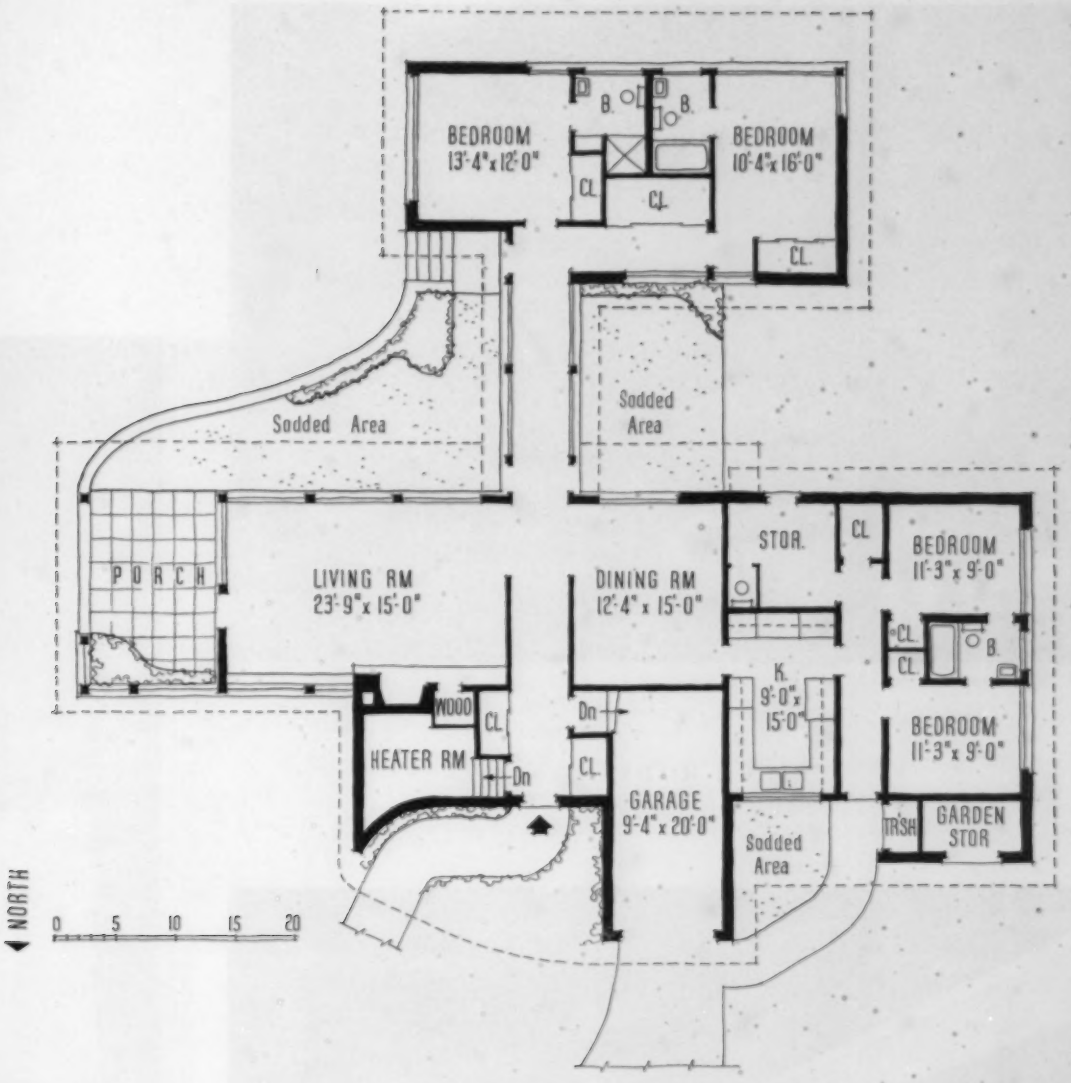
RESIDENCE OF MRS. EVELYN B. FICKE

New London, Connecticut

Stanhope B. Ficke and Grieshaber & Neilan, Architects

Bill Maris, Pictor

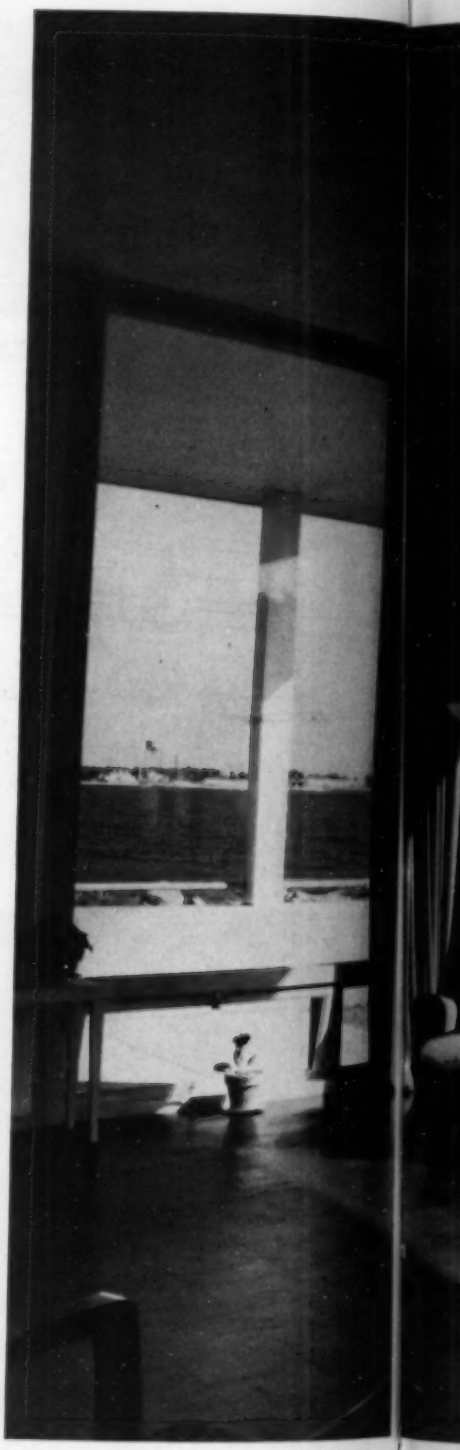




A CORNER site with a sweeping view of Long Island Sound to the south and southeast, and a busy street to the east, dictated the unusual plan of this house. Main living areas, of course, were placed facing the view and given large glass areas to dramatize it. The two bedrooms were separated from the rest of the house by a passage of floor-to-ceiling glass (center in photo opposite) to bring, ingeniously, light and view to the dining room and cross ventilation to the guest room. Two terraces were provided — a curved one to the east for the view and the sea breeze, and a small one sheltered by the west wall of the bedroom passage, for use on cool days. Clerestory windows in the north wall (opposite page, above) afford important cross ventilation, and a wide roof overhang on the south controls the sun's rays. The house was designed by the owner's son.

Bill Maris Pictor

FICKE HOUSE

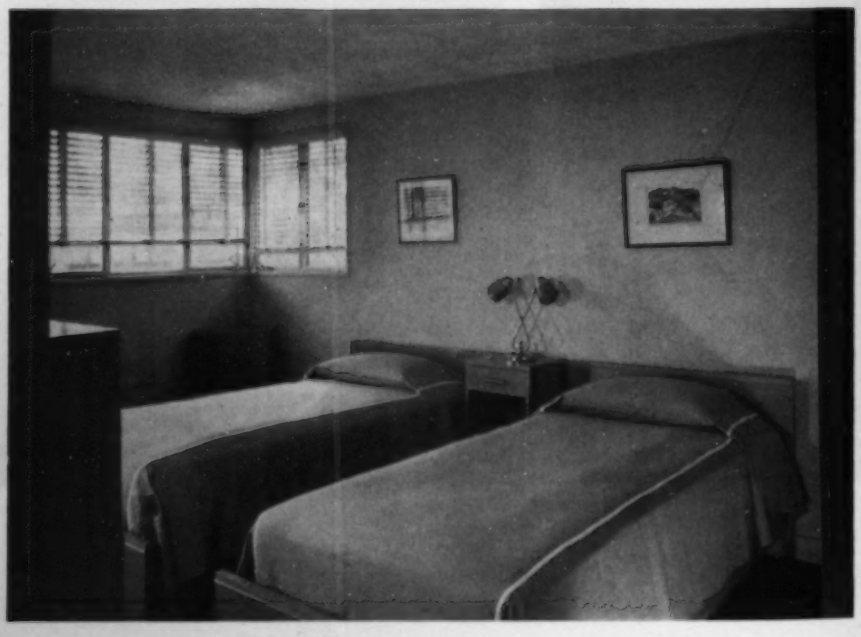


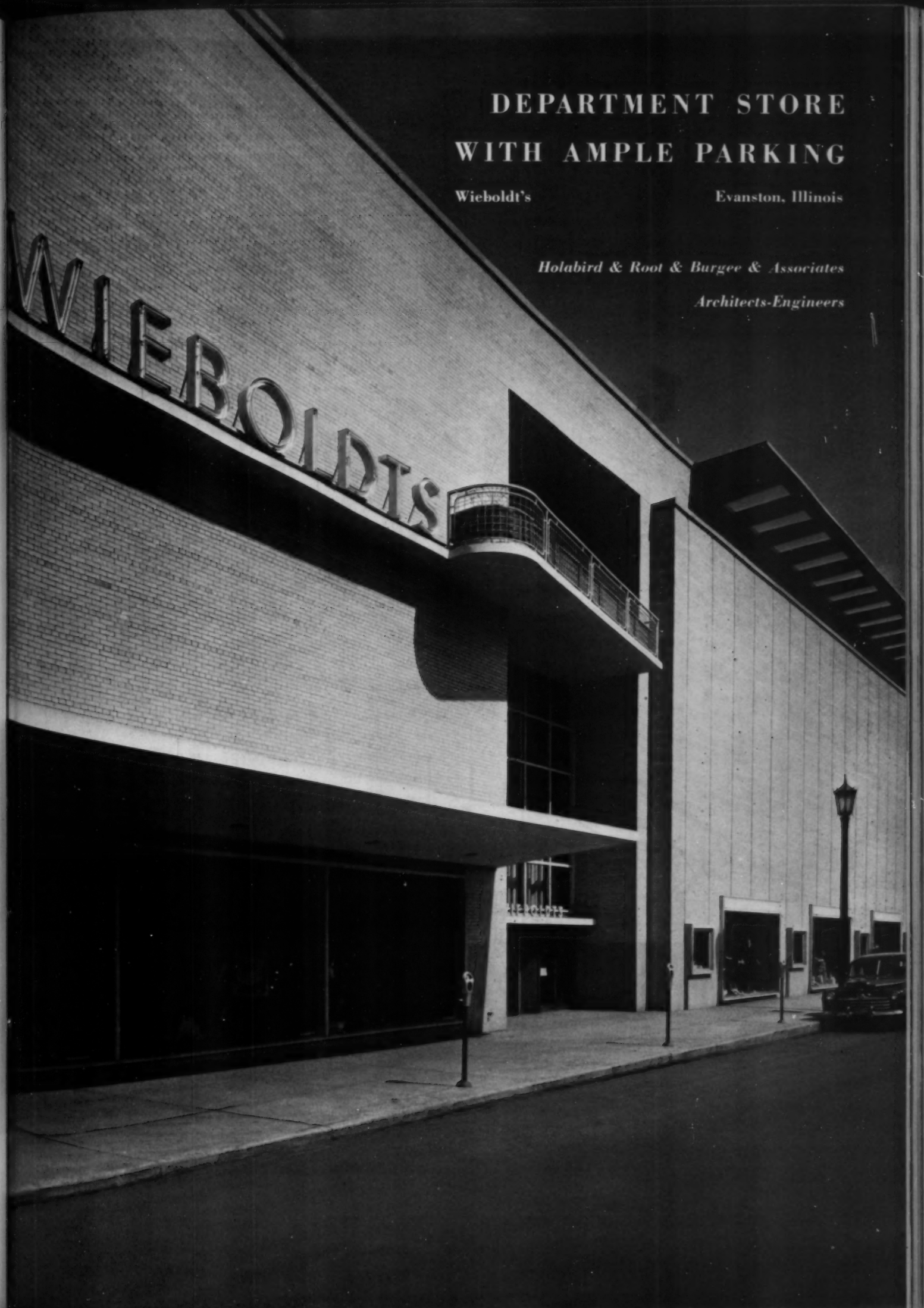
The feeling of distance is always present in this house, the architect comments—and no wonder, with the three main rooms looking out on a view such as that below. The rooms flow into each other, adding to the sense of spaciousness created by the large glass areas and the two terraces

Bill Maris Pictor

FICKE HOUSE

East elevation (above) faces a busy street, but terrace is high enough to give some privacy. Future low planting at the street line will give additional privacy without obstructing the view. Partition separating living room (right) from entrance hall is only head high, allowing circulation of air and contributing to feeling of spaciousness. Effective treatment of fireplace wall gives living room a second center of interest despite the dramatic view. Bedroom windows are high for privacy





DEPARTMENT STORE WITH AMPLE PARKING

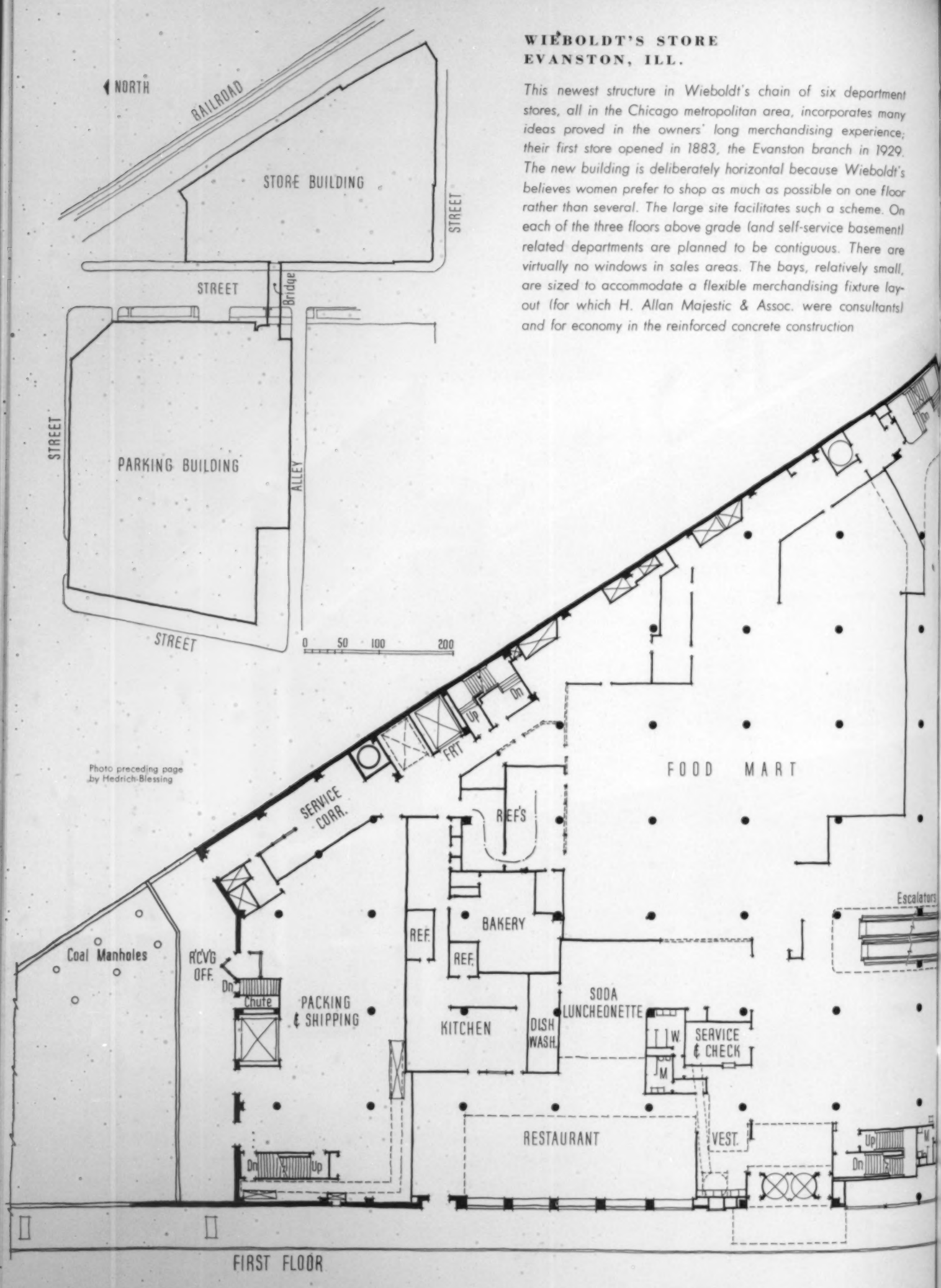
Wieboldt's — **Evanston, Illinois**

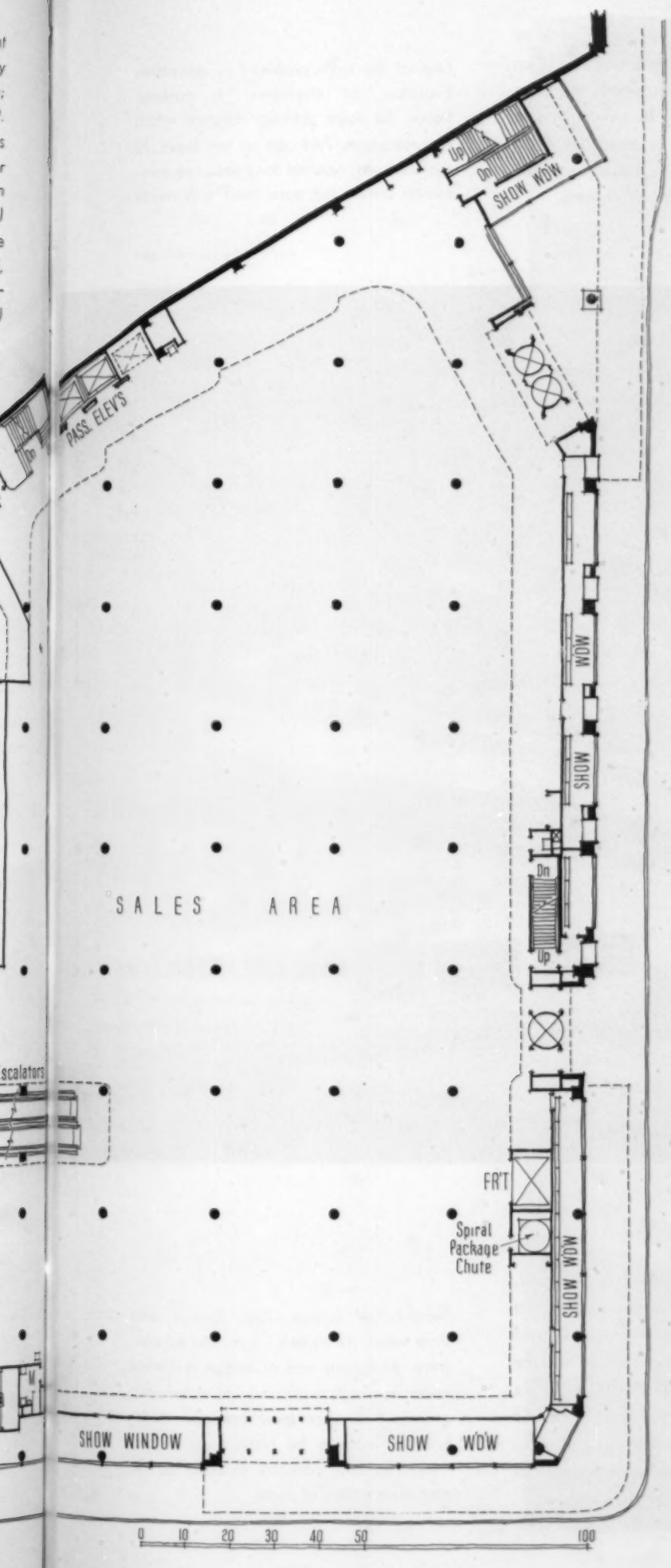
Holabird & Root & Burgee & Associates

Architects-Engineers

WIEBOLDT'S STORE
EVANSTON, ILL.

This newest structure in Wieboldt's chain of six department stores, all in the Chicago metropolitan area, incorporates many ideas proved in the owners' long merchandising experience; their first store opened in 1883, the Evanston branch in 1929. The new building is deliberately horizontal because Wieboldt's believes women prefer to shop as much as possible on one floor rather than several. The large site facilitates such a scheme. On each of the three floors above grade (and self-service basement) related departments are planned to be contiguous. There are virtually no windows in sales areas. The bays, relatively small, are sized to accommodate a flexible merchandising fixture layout (for which H. Allan Majestic & Assoc. were consultants) and for economy in the reinforced concrete construction

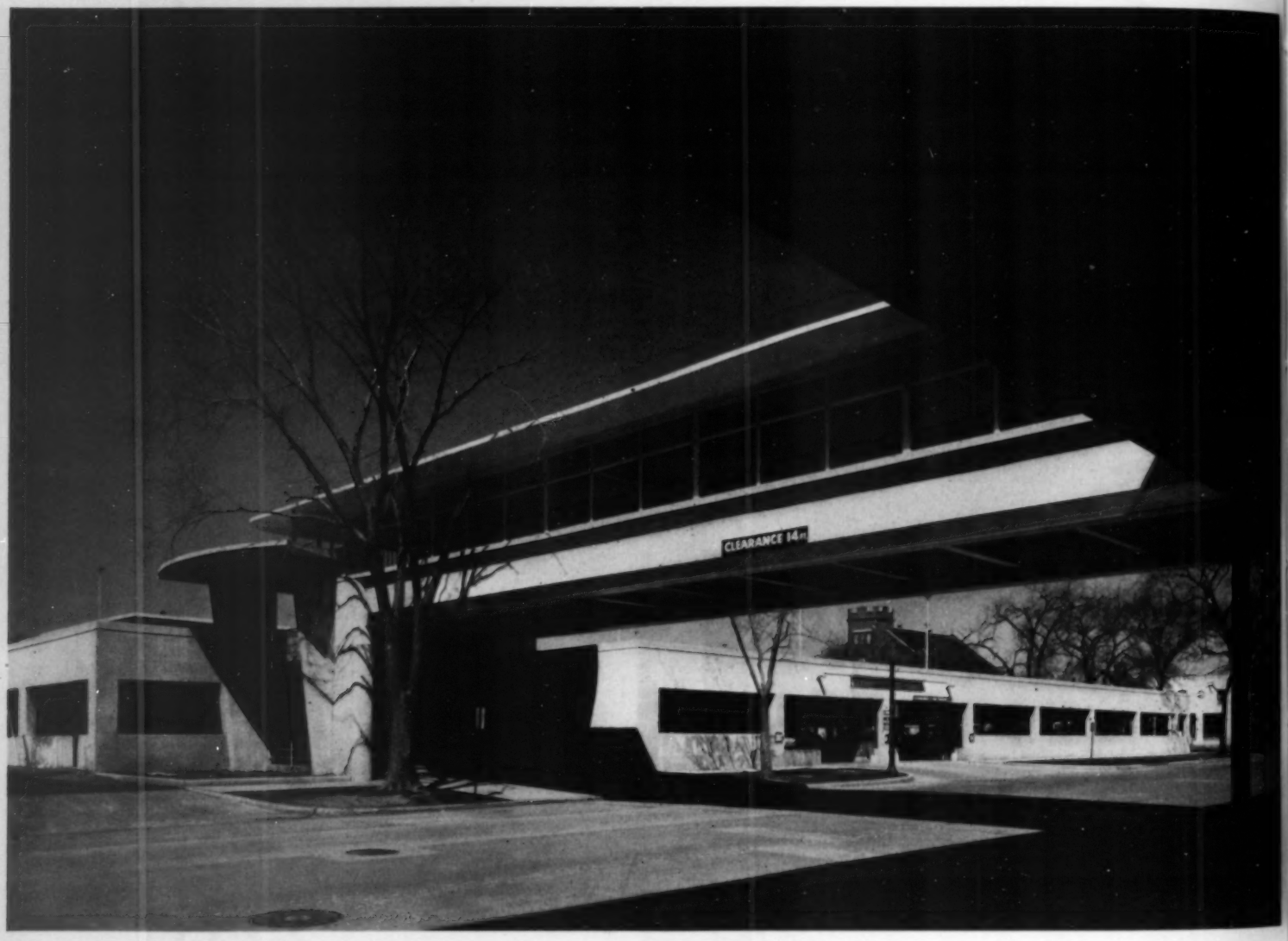




PART SECOND FLOOR

AMONG the store's many up-to-date ideas is a package-gathering system using chutes and belt conveyors to simplify the problem of getting to one place all the purchases made by each customer. It also speeds delivery service. From the point of purchase wrapped packages to be taken by the customer may be conveyed to a first-floor service desk or to either deck of the parking building; packages for delivery go to the basement and onto delivery trucks, without handling, within minutes after sale.

One of the main problems in downtown Evanston, as elsewhere, is parking, hence the huge parking structure which accommodates 744 cars on two floors. Its top deck was opened for public use some months before the store itself was ready

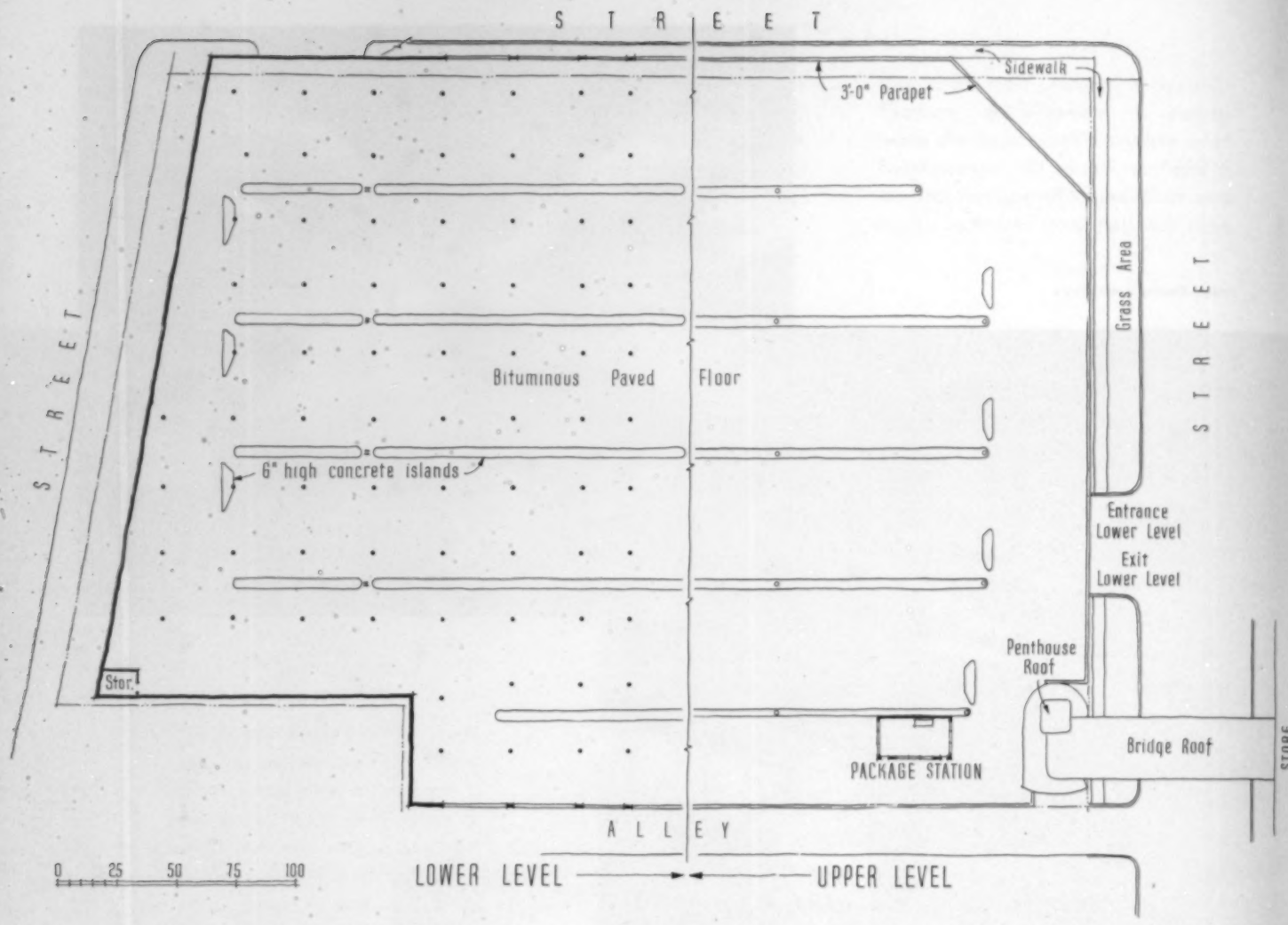


Because windows don't admit enough light to display merchandise well, and do admit dirt, they are virtually eliminated. Lighting is generally from louvered fluorescent fixtures, with incandescent fixtures for accents and special lighting. Each flush ceiling fixture is also an access panel to service lines in the furred space above; over each fixture is a pullbox with an extra electrical connection to accommodate future changes on the floor above or below. There are two heating systems: one for air conditioning during business hours; the other, radiation used to maintain 65 F temperature in off hours in winter. Automatic controls govern temperatures throughout.

Second-floor bridge, like garage and store which it connects, is reinforced concrete. At garage end of bridge is control tower from which an observer telephones attendant at street-level entrance directions for cars to be parked on second floor. First-floor cars are directed by an elaborate system of lights

Hedrich-Blessing Studio Photos

Walls of the three-story building, virtually windowless, are relieved of monotony by pattern and texture of the face brick. Entrances are spacious, in keeping with Wieboldt's intention of providing friendly rather than frenzied service. Show windows and cases are provided along street facades and entrance shown below for both small objects and large

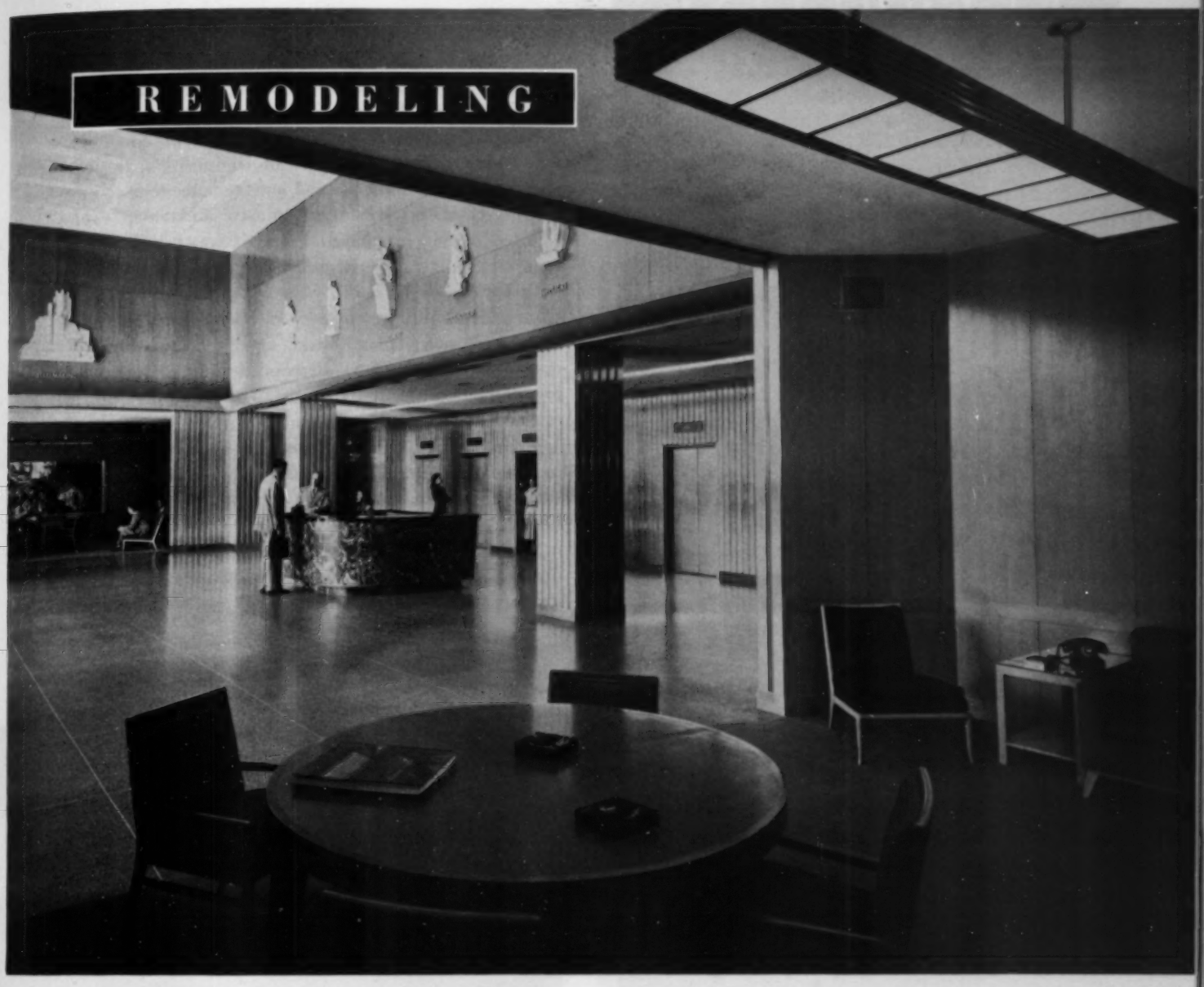


WIEBOLDT'S DEPARTMENT STORE

Hedrich-Blessing Studio Photos

Plan of parking building, above, shows lower level at left, upper level at right. Customer driving in at lower level is directed to available parking space, crosses bridge to store. Customer leaving store crosses bridge, picks up packages at station on level where her car is parked. In photo of store interior, right, note simplicity of fixtures and interior treatment; nothing in sales areas is permitted to compete with the merchandise

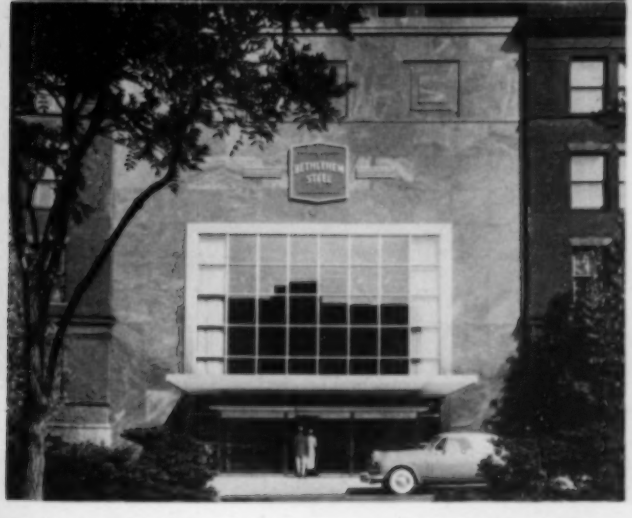
REMODELING



Damora

BETHLEHEM STEEL COMPANY HOME OFFICE BUILDING

McKim, Mead & White, Architects



AMERICAN industry knows how to deal summarily with obsolescence in its plants and machines, but, as has frequently been pointed out, it is much too tender with obsolete buildings, especially office buildings. Bethlehem Steel Company faced the latter type of obsolescence in its home office building, and has dealt with it vigorously. The results, while not measurable in production statistics, are plainly observable not only by management personnel, but also by the large numbers of distributors and customers received at the home office.

The usual prescription for obsolete machines — junk the things and start over — was hardly available here. The 30-year-old office building occupied the favorite spot, could not be vacated. In many important respects it was serviceable. But it was old, uncomfortable and depressing, incompatible with modern management.

Some sort of commendation award is in order for the manner in which the modernization was undertaken. (1) The job was thoroughly done (still being done). There is always a frightful temptation to do just a little.

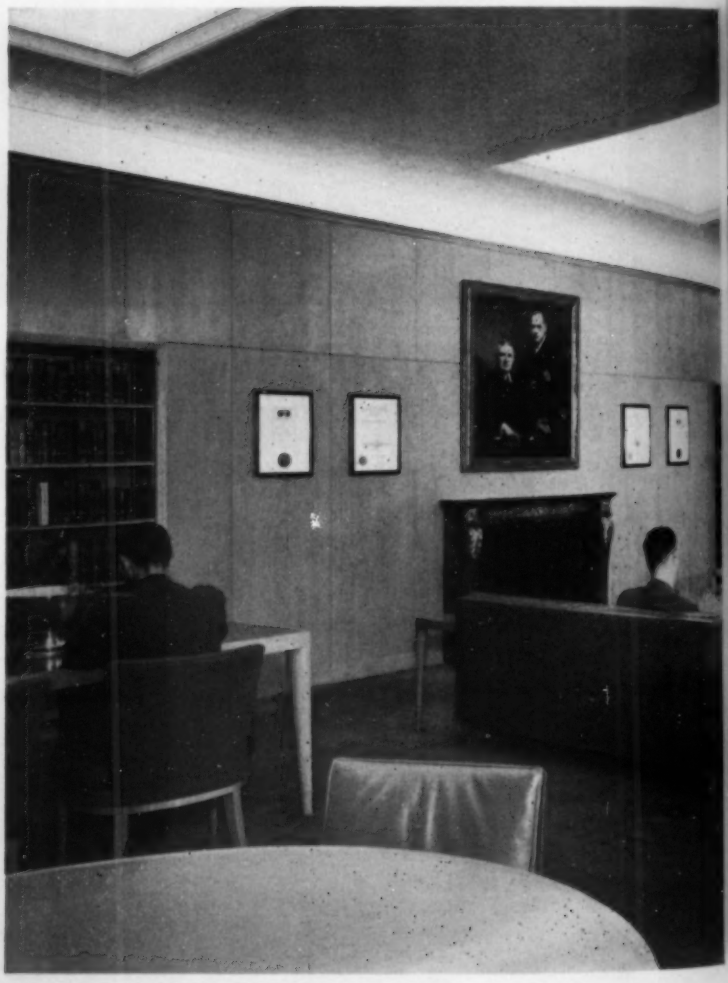
Above: spaciousness gives reception lobby an imposing quality

a bit of sprucing up here and there, some redecoration and face lifting. But the Bethlehem management kept going. (2) The task was turned over to an architect. The management included plenty of engineers, real estate and management officials and maintenance men to have tackled it themselves. But human and sales values counted heavily in the goal, and it was reasoned that these are matters for an architect.

In the words of E. G. Grace, Bethlehem chairman, "Our office building, considered an excellent one when it was built more than 30 years ago, lacked certain modern advantages, such as air conditioning, acoustic ceilings, and fluorescent lighting. These have all been installed. But we have gone much further than that. A company which is on its toes with respect to having the most modern and efficient plant and working forces certainly should have the most comfortable and efficient housing for its executives and office staff. We aim to make our whole lobby development, facilities and decoration symbolic of the extent of our company and its purposes."

Damora

Above: auditorium for sales meetings, Below: display room



Above: reading room of Charles M. Schwab Memorial Library, which, despite its sentimental intent, is a highly functional room

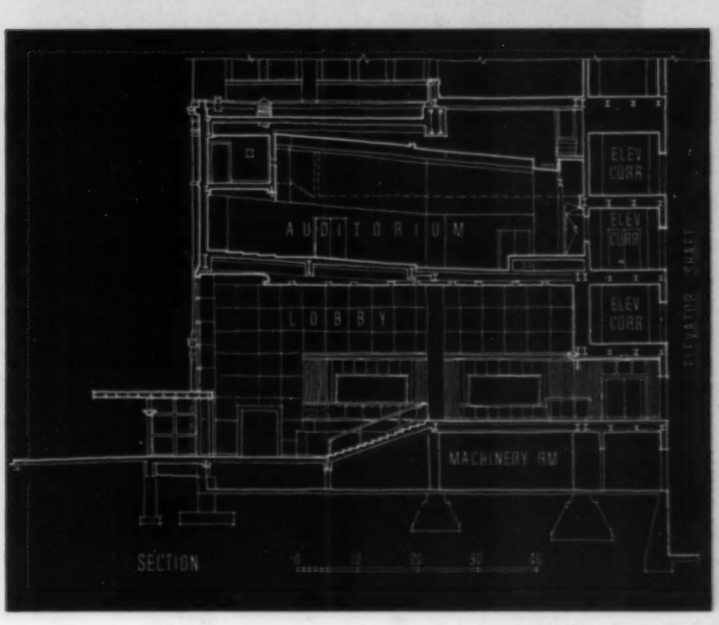
Implicit in his statement is the assignment to the architects. The mention of the lobby development touches an especial need, starting with really suitable space for receiving visitors, extending on to institutional and promotional displays, library, auditorium.

The before-and-after in the matter of reception of visitors is not possible to show in photographs. The main entrance was formerly at what is now the side of the building, with a flight of outside steps, leading to a small lobby where the visitor was announced. The new entrance opens from a plaza development at the end of the building into a huge lobby. The lobby space was achieved by developing what was formerly an open light court.

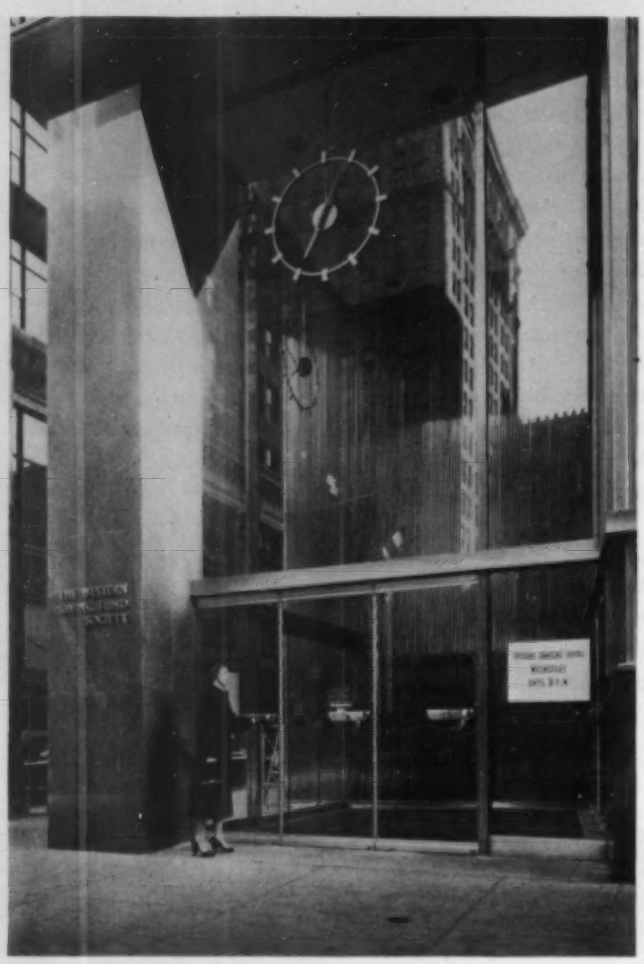
These strong measures, while still involving the difficulty of the stairs, did achieve something that would hardly have been designed into a new building. So much space was thus created for the lobby that the visitor feels strongly a sense of space and calm. The calm comes partly from the spaciousness, partly from careful acoustic treatment. The huge window at the doorway contributes somewhat to it, for the room is flooded with daylight. Thus, while the lobby is modern in styling, its space luxury is not often seen in today's buildings.

It is odd, but probably not significant, that in the rooms where modern design had fullest freedom — library, auditorium, display rooms — this feeling of spaciousness is not felt; these rooms were newly created, but were strong-armed into restricted spaces. But on office floors the space luxury is again felt, and here is one of the most cogent arguments for modernization — forty or fifty years ago offices were roomy rather than merely efficient. Build the new efficiency into them — in modern lighting, air conditioning, sound treatment, brighter design — and you have something better than one would have the nerve to design for today's costs.

The company's reaction to the remodeling is summed up by Mr. Grace: "I feel that the job has been a success beyond our fondest expectations. Other industrialists, seeing what has been accomplished here, have told me that they were going home to study their remodeling possibilities."



Right, above: view along refinished corridor in office section. Right: longitudinal section through newly created reception room



Cortlandt V. D. Hubbard Photos

WESTERN SAVING FUND SOCIETY

Philadelphia, Pa.

Harbeson, Hough, Livingston & Larson, Architects

Willing, Sims & Talbutt, Associate Architects

Extensive remodeling was limited to quarters for bank occupancy

THE DECISION to remodel this 50-year-old building was a sort of double-take. In 1945, when the bank bought it to obtain a new location, there was careful discussion of whether to remove the upper stories and remodel space for the banking quarters or raze it and start over. The decision then was to raze it, and the architects drew plans for a new building, but construction costs rose so precipitously that the plans were later set aside in favor of remodeling.

Two principal considerations influenced the design of the new banking room. One was a wish to remove the monumental granite and deeply inset windows which spread a gloom over this important business corner — Broad and Chestnut. Also contemporary design was wanted for itself, to brighten up dealings with the bank's clientele. The bank's officers were at first willing, then "increasingly enthusiastic . . ."

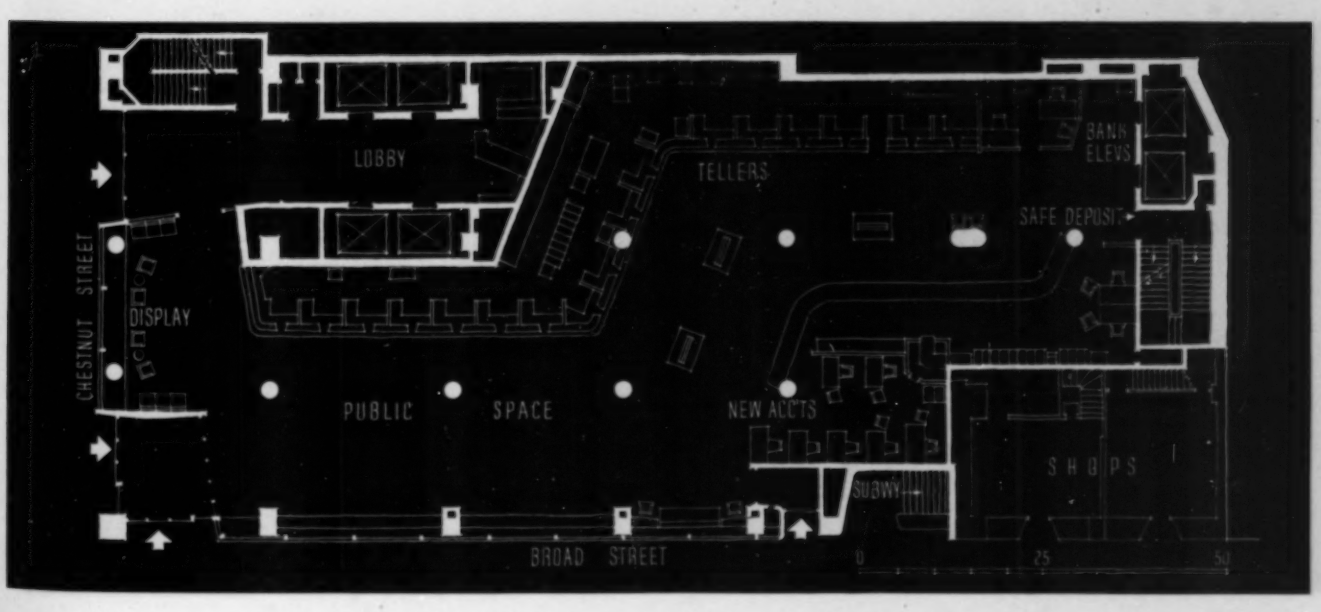
The bank exterior uses great glass panels above a granite base, and above the glass a wide course of pink marble adds a desirable note of color, and one which establishes a harmony with the older facade.

The dominant color inside the banking room is the brown of teak paneling covering the walls, along with the natural travertine on the piers, and blue green with which columns are painted. Floor is terrazzo, the marble chips black and buff.

The architects explain that the bronze panel on vesti-

bule walls does not represent anything. It serves as enclosure for ventilating and heating ducts, and, of course, as a separation of the vestibule from the banking room, and metal seemed more frank than would marble or granite masonry.

The third and fourth floors were completely rebuilt also, to house bank offices and officers' rooms. The second floor was included in this remodeling; it is now tenanted until such time as the bank may need it for expansion. Certain officers' rooms were fitted into the fifth floor. Alterations to the rest of the building were relatively minor.



Though the photographs show the curtains drawn, the tall windows usually flood the interior with daylight, and the pleasant aspect has been one of the features most commented on by customers of the Western Saving Fund Society. The architects won full support from officers in the avoidance of unnecessary symbolism and meaningless decoration. Dominant colors in banking room are soft brown of unstained teakwood and the buff of natural travertine

Cortlandt V. L. Hubbard photos, courtesy Armco Steel Corporation

PENNSYLVANIA COMPANY FOR BANKING AND TRUSTS

Philadelphia, Pa.

Howell Lewis Shay, Architects

Lindelle Studios Photo

IN PHILADELPHIA, a city of history and tradition, a 23-year-old office building is practically a youngster, but start to bring it up to today's standards and you soon find how seriously obsolescence and depreciation have affected it. This was the case when the Pennsylvania Company for Banking and Trusts acquired the strategically located 1500 Chestnut St. Building for its new banking headquarters.

Back of the obvious matter of appearances, the architects found, in their survey, that while the basic structure was sound, all piping, generators, pumps, electrical system were in poor condition and needed complete renovation. Add virtually complete change of occupancy in 21 stories and complete air conditioning for the building, and the project becomes extensive.

Altogether the remodeling consisted of removal of all existing partitions and installation of complete new plumbing and electrical services, installation of year-round air conditioning, a new two-story facade on the Chestnut and 15th St. fronts, a new kitchen and cafeteria in the basement, a banking room and vault on the first floor, and interior refinishing of the rest of the building. The bank occupies the first ten stories for

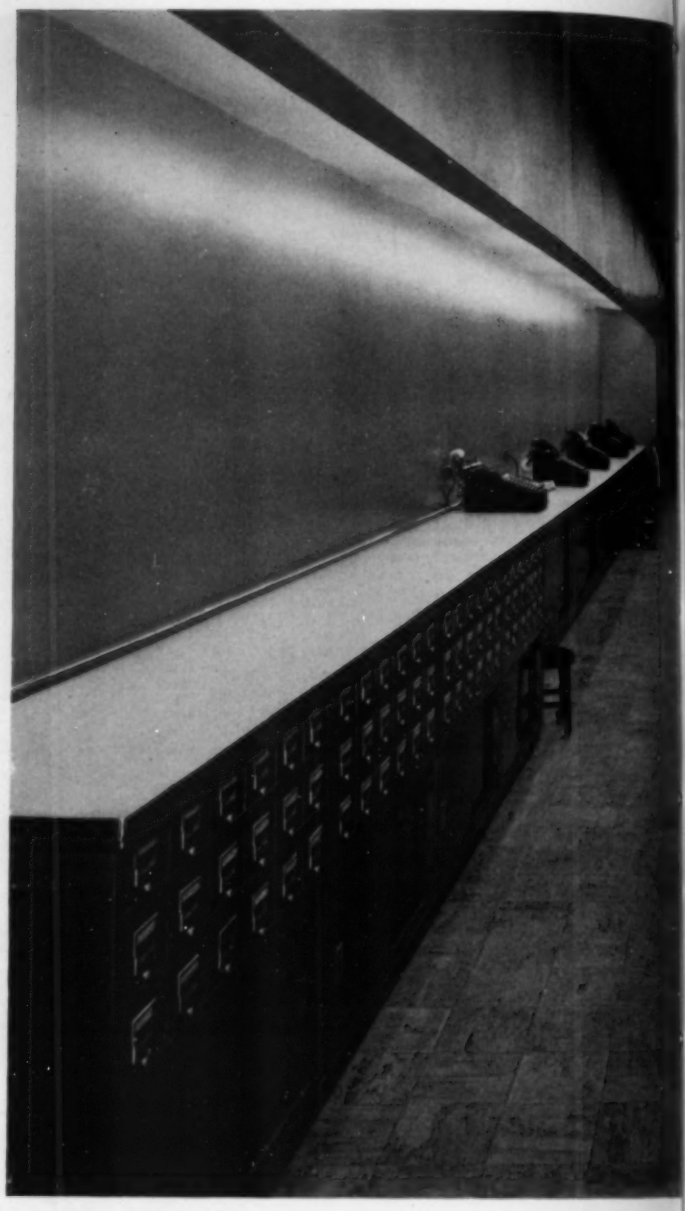
banking room and offices of a "shop" nature, upper floors being retenanted.

The new facade is of buff limestone and stainless steel with windows of double insulating glass. The "windows" virtually amount to full glass walls from floor to first floor ceiling line, a full open front. The visual effect, however, is that of huge windows in massive frames of stainless steel. The base is a low course of granite.

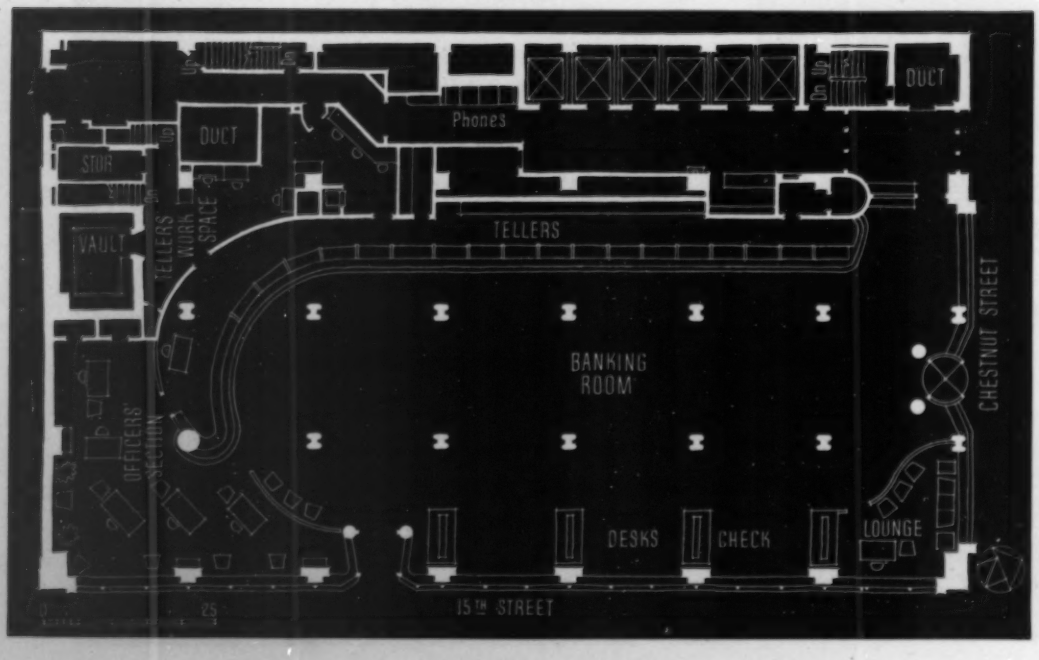
The banking room is characterized by soft colors, indirect lighting, open areas for free circulation, and curving forms. Tellers' desks are combined in one long curving counter, which winds around a prominent splayed column marking the officers' space. The counter is covered with plastic of a rich brown color and trimmed with two bands of stainless steel. The curve of the counter is matched above by a lighting cove combining direct and indirect light. The lighting installation won a first prize award in General Electric's 1949 planned lighting competition.

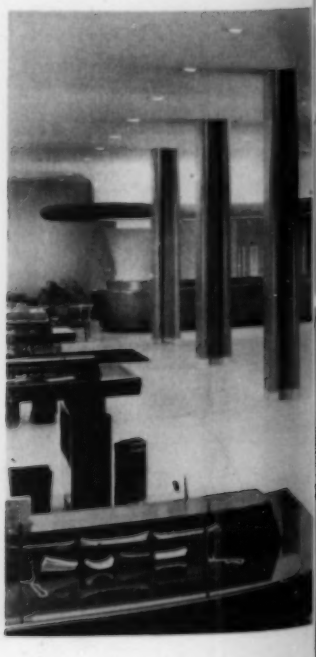
The terrazzo floor picks up some of the brown tones of the counter and check desks across the room, using in rather bold fashion a considerable variety of marble colors and chip sizes. The building columns occurring in the banking room were given the minimum fireproofing, taking a frankly H form.

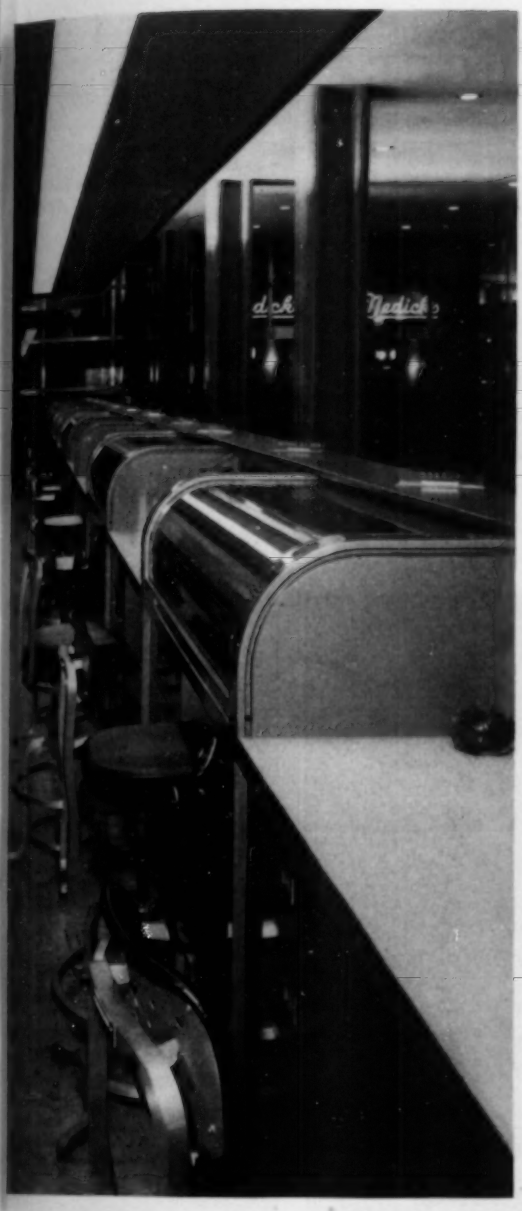
To find space for air conditioning equipment required strong shoehorn methods, to the point where the building's boiler plant was removed in favor of purchasing steam from the local utility. Cooling compressors and pumps are in the sub-basement, cooling tower on the roof. Actual air heating, cooling and dehumidifying equipment is divided into two parts, one in sub-basement, one on 21st floor, each serving half of the building. Office radiators are orificed to maintain 70 deg. against window and wall losses; air conditioning supplies heated ventilation air. In summer the system will cool to 80 for an outside temperature of 95.



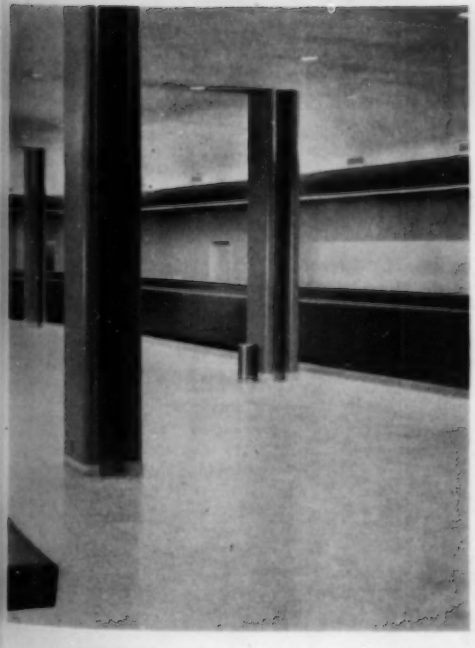
Condax Studios Photo







Condax Studios Photo



Universal Photo Service

ST. ANN'S CHURCH AND SCHOOL

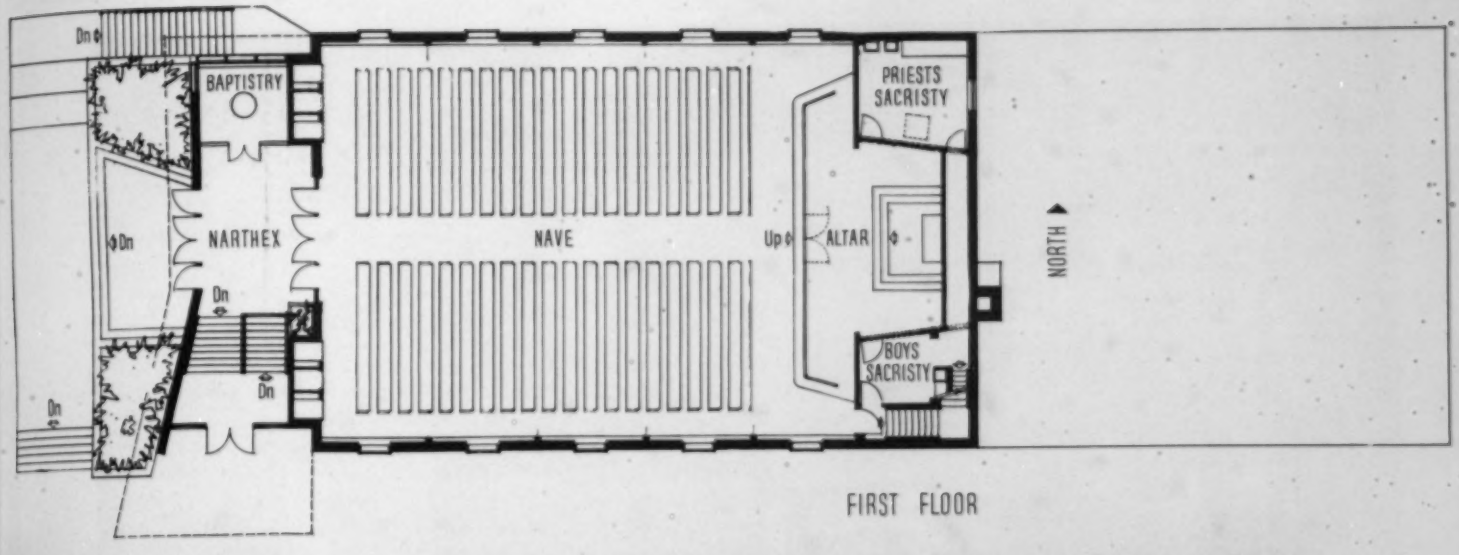
Mission, Kansas

Kivett and Myers, Architects

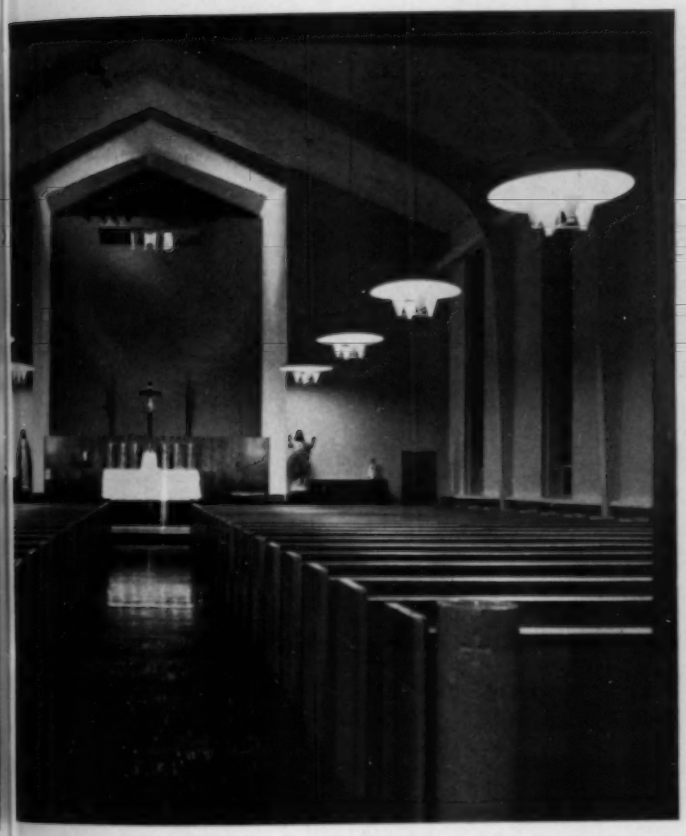
L. D. Jones Photos

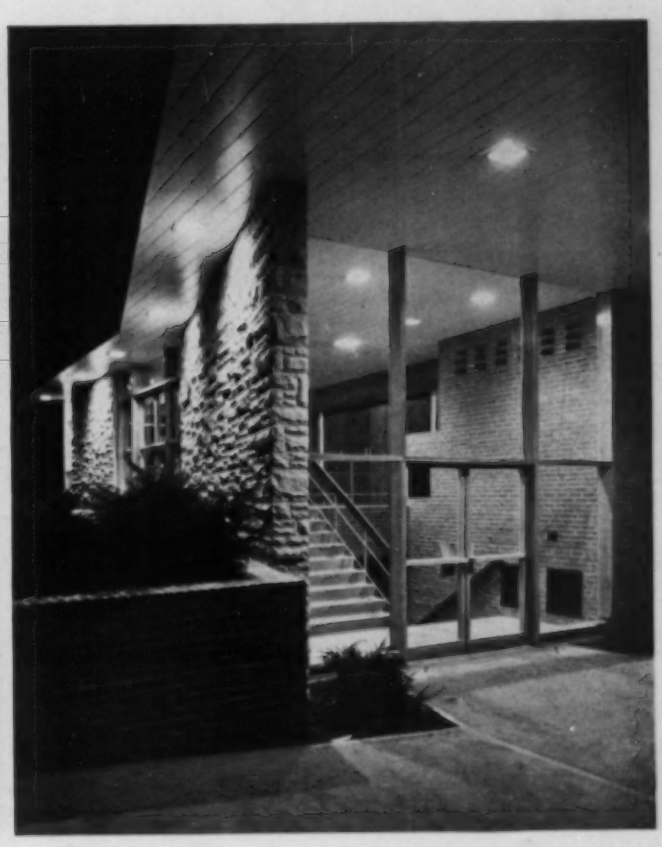
THIS combination church and school is the first unit in a group of buildings planned to meet the religious and educational needs of a suburban community outside Kansas City. If the plans are fully realized, the present structure will be converted wholly to school use, with the church portion becoming an auditorium-gymnasium, and a new and larger church, a convent and a rectory added. The classroom wing can be expanded as required.

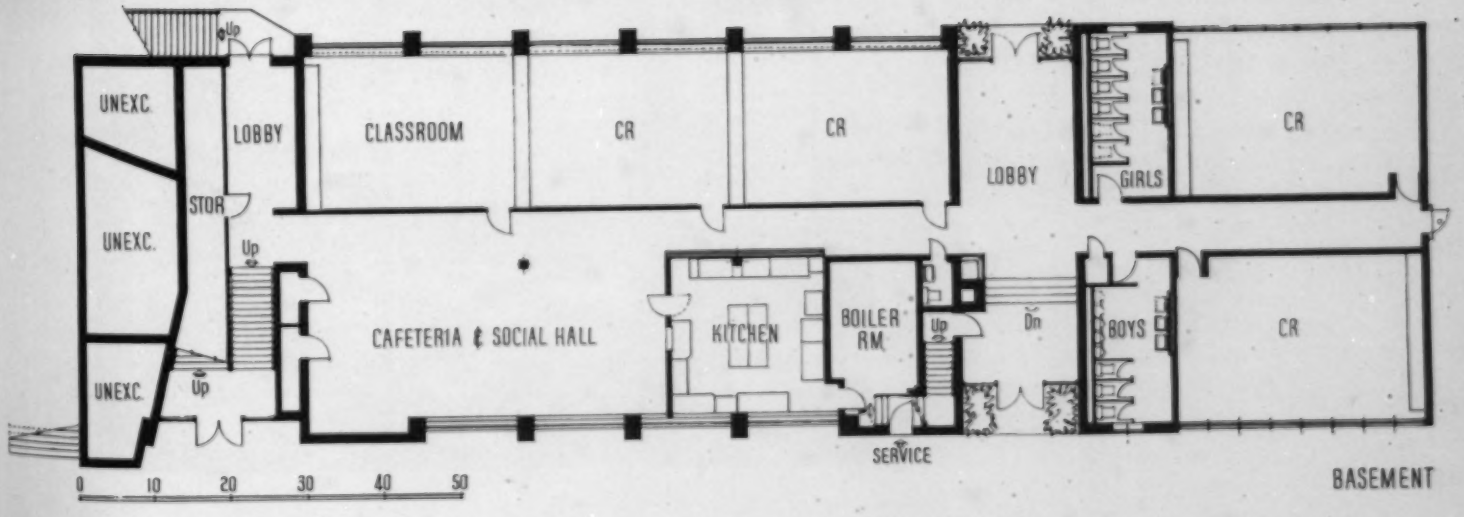
. The present building, because of a sloping site, has two levels. The church, on the upper, seats 450. The school wing, on the lower, has five classrooms and a cafeteria. Each has its own entrance, but both are accessible from a mid-level entrance. Exterior is red face brick and white stone, with wood trim painted white. Framing is steel.



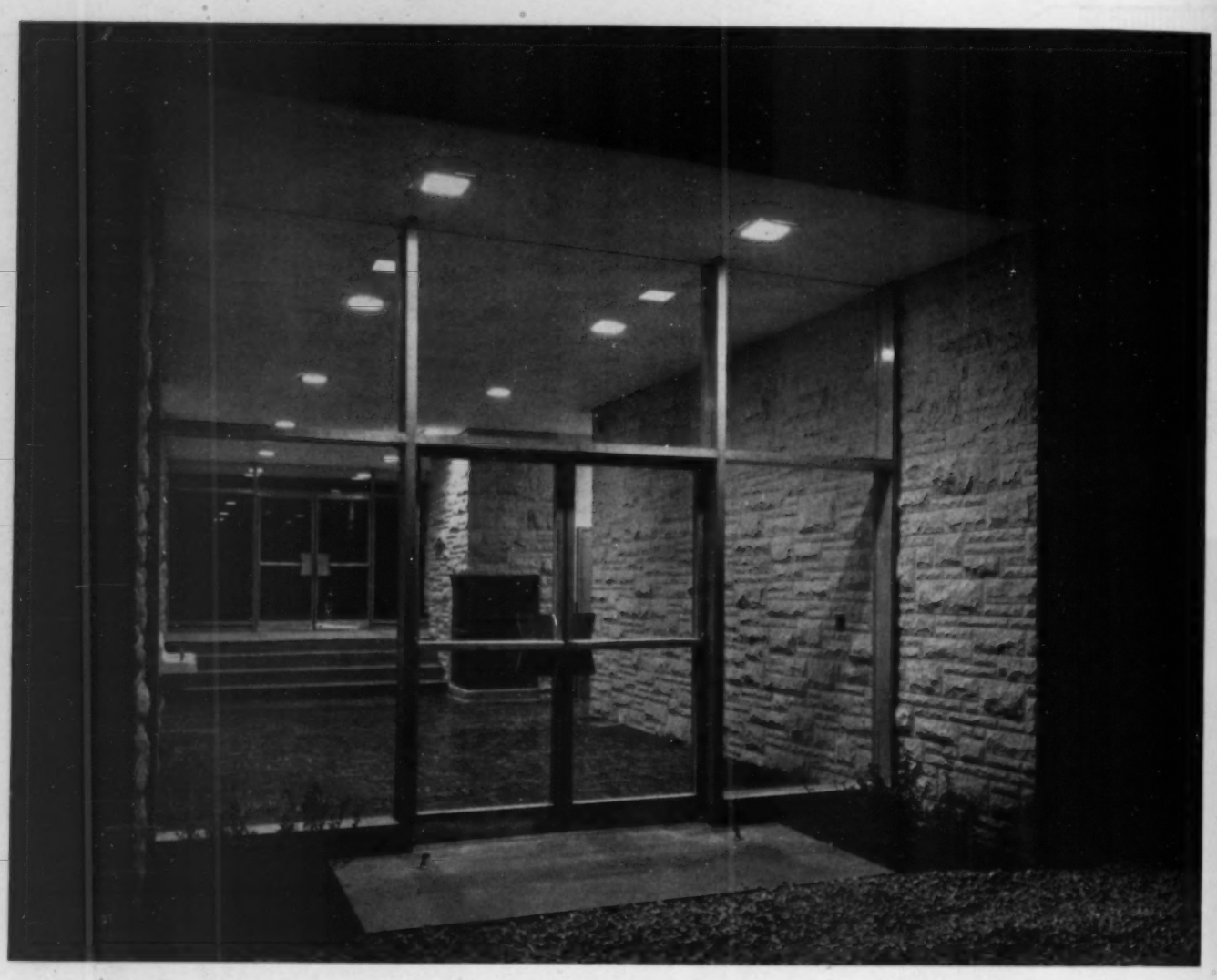
FIRST FLOOR





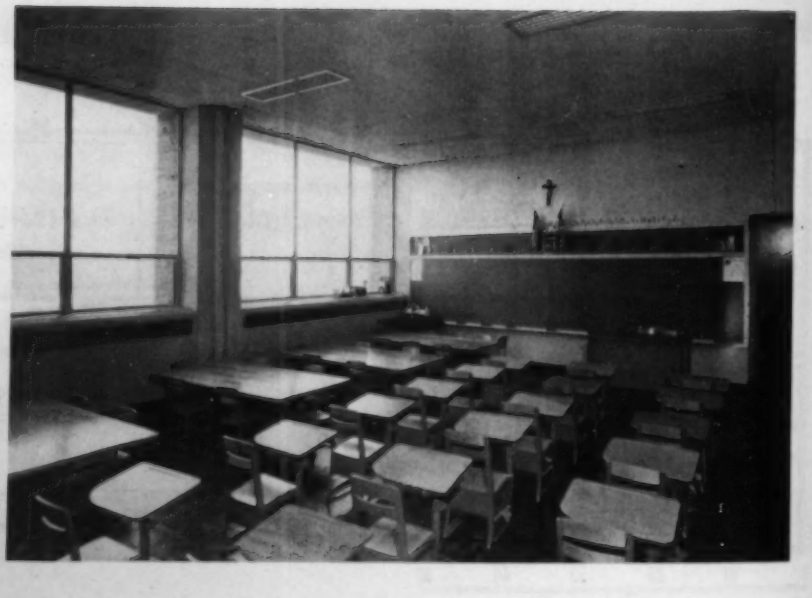


BASEMENT



L. D. Jones photos

Main entrance to school (above) is on lower level, directly opposite a 75-car parking lot; lobby stretches across entire wing. Classrooms (right) have continuous overall luminous ceilings, color schemes designed to reduce eyestrain and glare. Church interior (opposite page) is unusually and effectively simple: walls are painted plaster, floor is asphalt tile; tall windows allow daylight to pour in. Conversion to school auditorium-gymnasium when new church is built should not be difficult



DRIVE-INS
BANKS
THEATERS
RESTAURANTS

THE OLD theory that a busy corner was always a good business location is accepted today with great reservation. It has become increasingly difficult for would-be customers to find places to park. Passenger car registrations in the U. S. have risen from 26 million to over 33 million in the past five years. Establishments of all kinds are finding it necessary to urge greater public facilities for this increase in automobiles, and to seek methods of providing private services of their own. Drive-in concerns are rapidly coming to the fore to fill this need. Motels, restaurants, theaters, banks, shopping centers, even a church, have been planned for the use of motorists.

Most drive-in types were started in depression days as novelties to lure customers. Questionable connotations arose during this period — the drive-in restaurant was often considered a drink stand, or a honky-tonk; some banks used a rigged-up affair for drive-in service; and theaters were often regarded as rather slip-shod concerns playing third rate movies. They are all now developing into solidly housed, sound businesses, and are acquiring a permanent status in our social habits.

Families are being won over by the drive-in sales slogans — "No parking problems! Fast service! Convenience, comfort! No need to dress up! No standing in line!" Perhaps the most convincing argument for many is that small children may be brought along, kept out of harm's way in the car.

This is all reflected in current building figures. Drive-in theaters have increased from less than 100 in 1947, with a capacity of 5000 cars, to more than 2000 at the present time. The capacity exceeds 775,000 cars. The growth of restaurants has closely paralleled that of theaters. The U. S. Dept. of Commerce Bulletin, *Restaurants and Other Eating Places*, states ". . . mass feeding in a wide variety of types is now an integral part of American life and is likely to assume an increasing role." The popularity of the drive-in restaurant makes its importance obvious. The American Bankers Association estimates that there are about 800 to 1000 drive-in banks in the country, with two or three new ones being reported almost every day.

This study has been prepared to provide brief check lists and planning suggestions for architects concerned with the design of drive-in banks, restaurants or theaters. For reviews of some of the equipment available on the market for drive-ins, see Products For Better Building, page 162, in this issue.

Photo opposite page by Vic Stein

Below: George R. Szanik Photo

The editors wish to express appreciation to the following for their generosity in providing material for this study: BANKS — Walter S. Bucklin, President of the National Shawmut Bank, Boston, Mass.; Mosler-Duplex Co.; Diebold, Inc. THEATERS — William Glenn Balch, Architect; Jack Corgan, Architect; Motion Picture Herald; Jay Emanuel Publications; and many manufacturers. RESTAURANTS — Restaurant Management magazine. Photo, left: Baseline Theater, San Bernardino, Calif., William Glenn Balch, Architect, Louis L. Bryan, Associate. Center: Biff's Restaurant, Hollywood, Calif., Douglas Honnold, Architect. Right: First National Bank Drive-in Facility, St. Petersburg, Fla., William B. Harvard, Architect, John B. Dodd, Associate

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 164

DRIVE-INS | BANKS

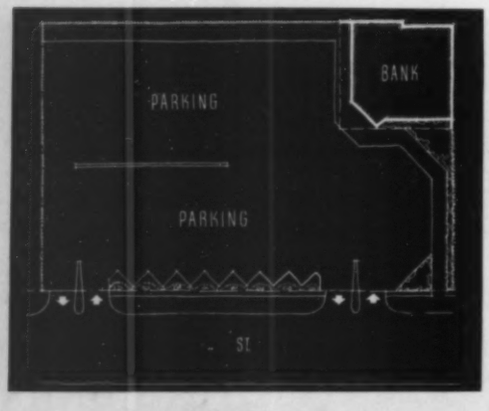
SUPPLEMENTARY banking facilities for motorists are being incorporated in all types of banks, all over the country. Aside from helping to alleviate street congestion and parking dilemmas, exterior tellers' windows and parking areas are used to ease crowded banking floors, develop new business, and improve customer service. They have been used in every type of neighborhood from business and industrial to residential sections. The convenience offered is said to have caused success even where parking is not a problem. Most banks where units have been installed feel that the investment and maintenance was worth while and developed new business for their concerns.

TYPES AND EXTENT OF SERVICES

Facilities offered range from parking lots adjoining banks to installations of one to four tellers' windows with overhanging canopies or completely enclosed drives. Variants include walk-up windows for pedestrians, and curb tellers. The latter are remote control units with tellers' booths located under the sidewalk. Although a reasonable traffic turnover by a drive-in window will cut down on need for parking areas, some provision must be made for motorists who have business to transact in the bank itself. Precise needs of an individual bank are best indicated by a poll of its customers on services desired.

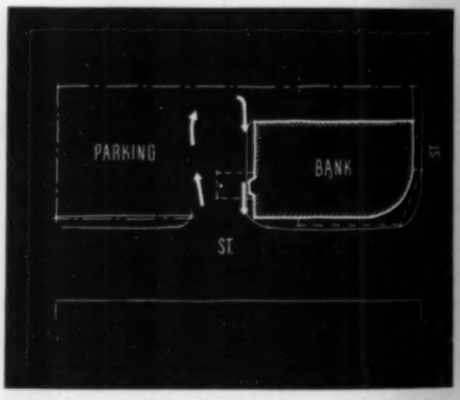
Many banks offer complete teller services at drive-in windows. Others limit them to commercial account transactions, deposits, check cashing, or special deposits and payrolls. Some require advance notice of an hour or more to prepare payrolls. In some localities, early morning and evening services are offered on special days.

By properly training tellers serving drive-in windows and educating customers to their use, transactions can be handled with considerable speed. This is increased where services are limited. The customer is expected to have checks and forms filled out and signed on arrival; some banks provide booths off the parking lot for customers who have failed to do so. Where a large number of transactions are handled, additional windows are often used. If two windows are placed in line on a



University National Bank Parking Lot Branch, Seattle., Wash., Smith, Carroll & Johanson, archts. Parking lot has time limit for patrons. All service is on interior of the bank

Desert Bank, Inc., Cathedral City, Calif., Clark & Frey, archts. Bank has parking lot and single drive-in window for both interior and exterior service, car transactions sheltered by roof



Dearborn-Massar Photo

Julius Shulman Photo

single wall, the number of transactions cannot be doubled, as there is always a period of delay or interference by the first car in line. Business usually increases at the windows on stormy days. Peak loads in general coincide with lobby traffic loads.

If the volume of business is sufficient, a full-time teller may be kept at a drive-in window, with extra duties for slack periods. In other banks it may be advisable to have any teller free at the time perform the duties. The location of some parking lots will necessitate a part- or full-time guard. His duties will consist of directing customers to open parking spaces, and seeing that they do not overstay the privilege of free parking. Such policing also discourages attempted robbery. Most banks make no security provisions for the customers other than possibly providing a gun port at the window. Some patrons feel that there is, even so, an added safety in handling transactions in the car.

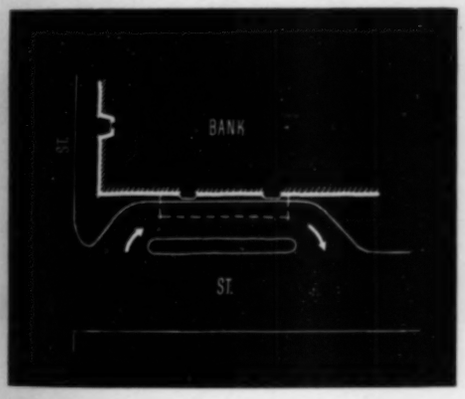
The use of regular drive-in windows by pedestrians can be hazardous, as well as slow up traffic. Many banks fill the customer's first request, but suggest that he use the regular facilities in the future. Walk-up windows offer a safe alternative.

Civil authorities in general are very favorable toward drive-in banking service. Some communities object to the curb-teller units, however, on the basis of city codes against sidewalk vending.

LOCATION, CONNECTION WITH BANK

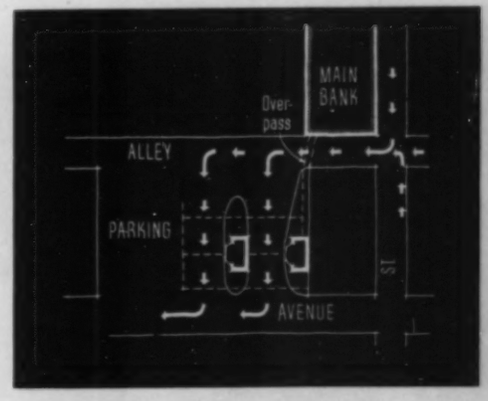
In main bank: Permission may sometimes be obtained to use an inset section of sidewalk or window traffic and parking on a main thoroughfare. A unit might also be placed on a public alley at the rear of a bank building. Care must be taken in such a case that there are no truck loading docks in that section which would block the drive-in window from traffic. In some cases use might be made of a basement for drive-in and parking facilities. In new construction roof areas might be used for parking.

Island units: Small booths could be placed in parking lots or garages adjacent to, or across the street from the bank. They could be entirely separate or connected by a tunnel or overpass to the main building. Legal restrictions may require a physical connection. Such a set-up could have its own ledger and signature cards, or be



The First National Bank of Boston, Boston, Mass., Cram & Fergerson, archts. Two windows, but no parking, at main bank. Difficult approach used to place window on car's left

First National Bank Drive-in Facility, St. Petersburg, Fla., Wm. B. Harvard, archt., John B. Dodd, assoc. Double units adjoin main bank; limited parking provided on lot



Courtesy of Mosler-Duplex

Florida Photo

Below: Bank of Passaic & Trust Co., Passaic, N. J. An island type drive-in is housed in portion of ground floor, connects with two streets for dual approach. Walk-up window serves pedestrians and patrons from adjacent parking lot

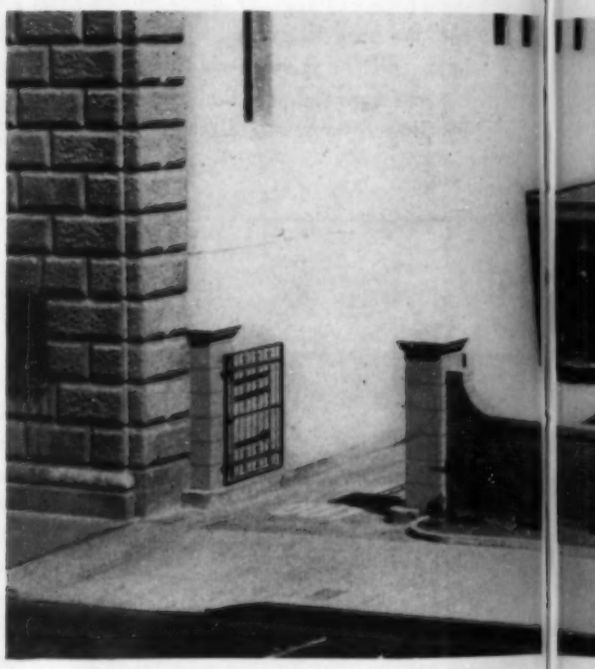
Above: Bayside National Bank, Bayside, N. Y. Walk-up window for pedestrians and shoppers. Wide walk permits passage of baby carriages. Guard rails prevent customers from stepping into traffic. Standard drive-in window unit is used for this service

connected to bank facilities by pneumatic tubes or conveyor belt.

In branch banks: Growth of local shopping areas in lower cost suburban zones has caused the establishment of many small branch banks in their environs. Location of teller units and parking lots is generally a lesser problem in such a case, due to the availability of more space. Completely separate records and personnel are required.

PLOT LAYOUT

Entrances: Where there is a separate exit, entrances should be a minimum of 10 ft in width. When both



parking lot and drive-in window are served by a common entrance, 20 ft width minimum should be provided if possible. It is common practice to provide gate posts and a chain to close off the parking area after hours. Such posts should be of solid masonry to ward off damage if hit by an automobile. Fences around lots should be durable and protected by some type of buffer on the parking lot side. The grade of sidewalk ramps should be low enough to prevent scraping of cars.

Approaches and drives: A straight approach to a window is best, and should allow sufficient space for several cars to line up off the street. Where a "U" turn is required, about 50 ft should be allowed, with the window far enough away for the car to be out of the turning stage on arrival.

The window transaction requires less effort on the part of the driver when located to his left. Often, however, the advantages of allowing extra line-up space, or the utilization of both sides of an island unit, will justify the placing of a window unit to the driver's right.

If two windows are in line, enough room should be left between them so that the second car in line can pull out and depart after being served. Where possible, the second window should be so located that it may be approached by a separate line of cars. An electric-eye indicator is often used to tell customer which window to use.

Painted stripes or bumpers are used to guide cars into position at the windows. A curb should be provided below the window to protect it from collision.

Guard rails should be placed around any building exits opening on driveways.

Several types of devices are used for signaling the teller, during slack periods, of a customer's arrival at the window. These include: a compression hose on the drive, push-button buzzer on the window, mirrors and photo-electric cells.

Parking lots and paving: Wide variation in the size and shape of lots, and their relation to streets and buildings prevent the forming of any standard layout for parking areas. In general, ease of maneuvering automobiles, and a maximum capacity for the lot are prime factors.

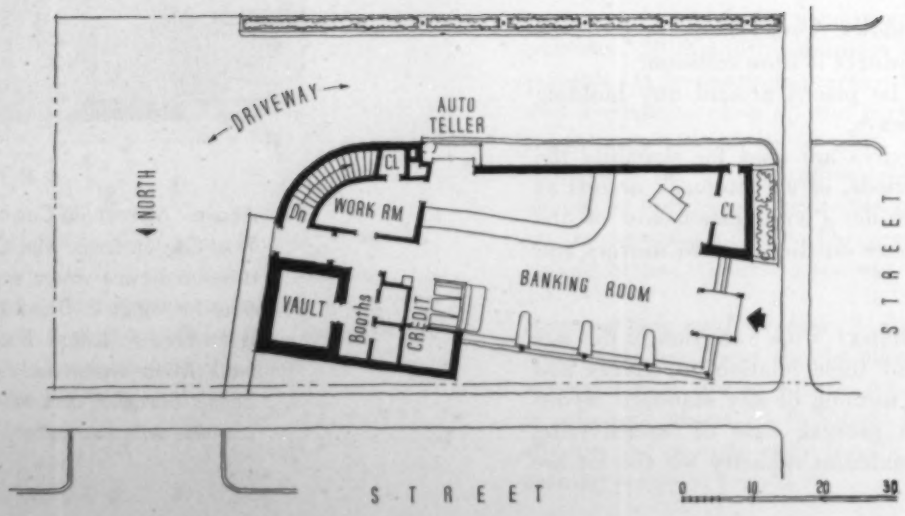
Photos Courtesy Mosler-Duplex

Below, left: Union National Bank, Ventura, Calif. Lot adjoining bank treated as patio-like drive for auto service. Location of window places it on drivers' right, but permits nine cars to line up off the street to avoid traffic congestion

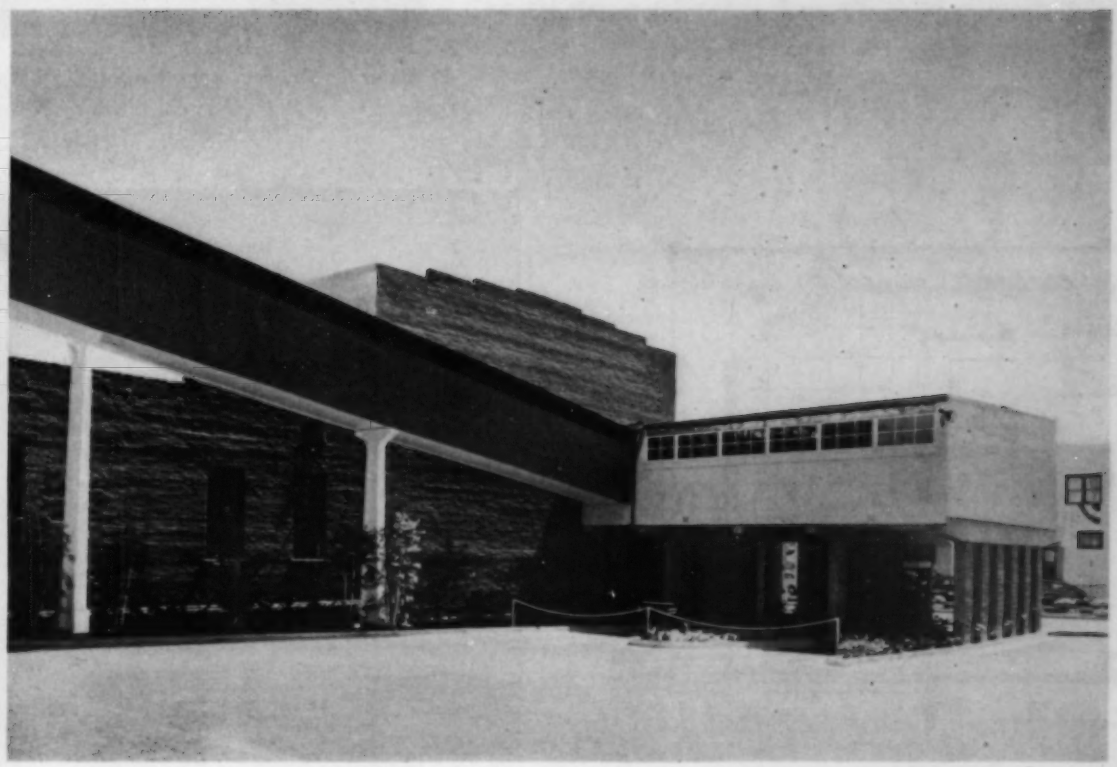
Above: Mercantile-Commerce Bank & Trust Co., St. Louis, Mo. Curb teller gives drive-up service where space is unavailable for window. Deposit placed in unit is lowered to teller's booth below sidewalk. Mirror system and two-way speaker permit customer and teller to see and converse with each other

Security Trust Co. Auto Bank, Rochester, N. Y., A. Charles Pioch, archt., Edgar N. Phillips, dsnr. Integrated roof shelters approach to drive-in window. Placement towards rear permits car line-up, easy access by all tellers

Joseph Molitor Photos



First National Bank Drive-in Facility, St. Petersburg, Fla., Wm. B. Harvard, archt., John B. Dodd, assoc. Right: adequate lighting gives safety at night for money handling and traffic. Second floor houses storage room. Below center: an overpass connects drive-in unit with main bank. Banking laws would have required separate charter for drive-in if it were not physically connected with bank. Bottom: detail of teller's cage. Work counters and opening provided for manufactured window unit



Florida Photo

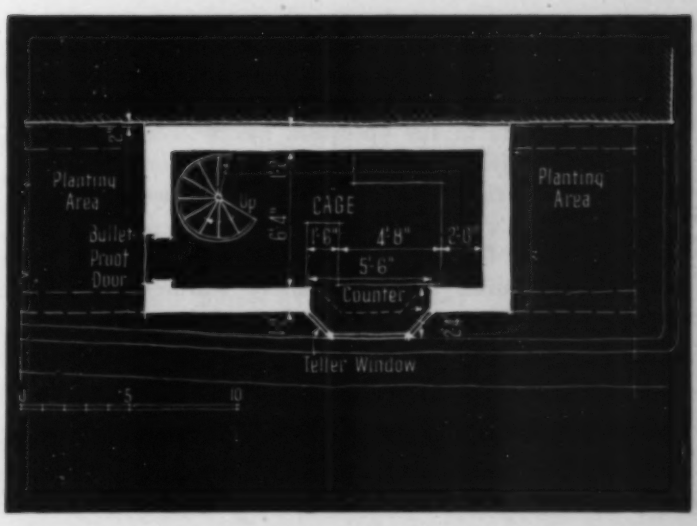
Concrete or asphalt are generally preferred for paving. The usual precautions should be taken for foundations and drainage. Radiant coils are sometimes used in concrete slabs for snow removal.

GENERAL PLANNING

Window location: A location centered behind banking room tellers' cages is usually best for a drive-in window. This permits any of the tellers to perform the service, and dispenses with the need of an extra full time teller for the average bank.

Use of the windows is expected to increase; it would be advisable to provide for future expansion if possible.

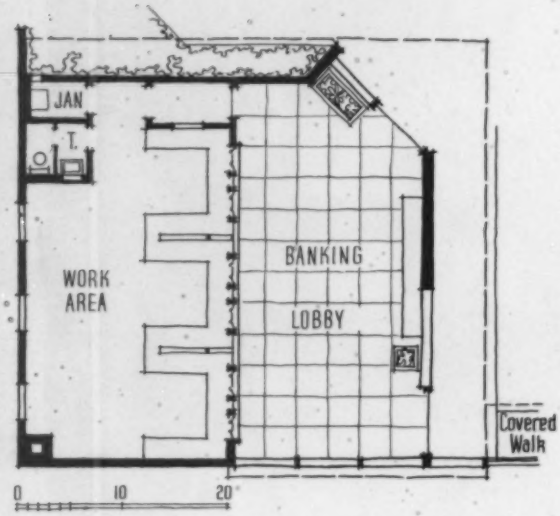
All enclosed units should be air conditioned and draft-proof. Inside pressure should be slightly above that of the exterior to prevent entry of exhaust fumes.

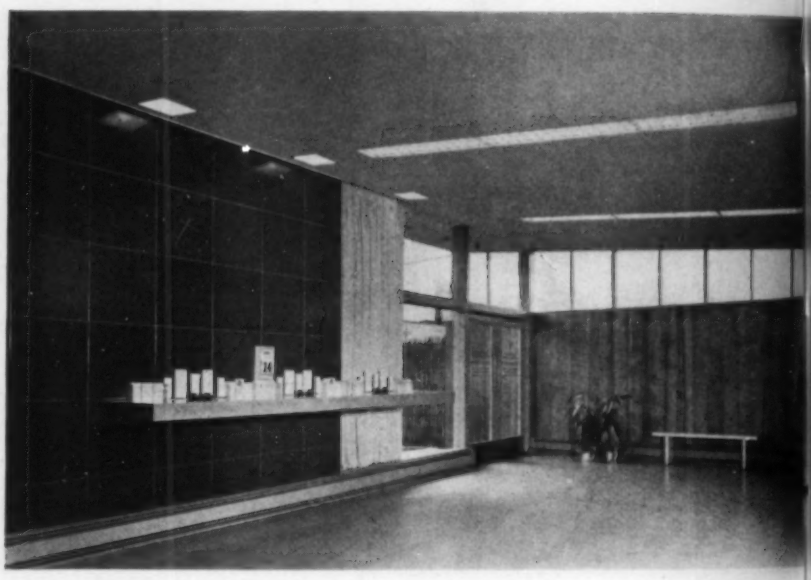


Weather shelter: In all cases, windows should be provided with some form of shelter to protect the area where the customer will be reaching to the teller's unit. This may be a completely covered drive, or just a 6 ft square marquee. Height of marquees should be clearly marked to warn trucks using the service. Although few banks provide after hour service at present, it would be well to wire marquees for future lighting installations.

Dearborn-Massar Photos

University National Bank Parking Lot Branch, Seattle, Wash., Smith, Carroll & Johanson, archts.: designed for inside service





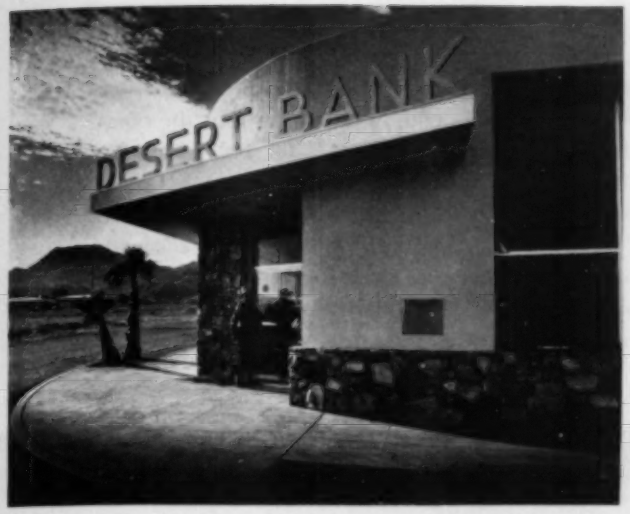
Large, uncluttered banking floor is provided for patrons. Tellers' booths (below) are enclosed, tend to speed up service

EQUIPMENT, INSTALLATION

Window selection: Manufactured window units are available to fit most types of bank design. The units vary chiefly in the operation mechanism of the pass door or tray. Each system permits only one side of the pass to be open at a time. Some types also incorporate such items as package receivers, night depositories and gun ports. Care should be taken to select one with a durable finish, and with safety features preventing mashed fingers as the pass door is shut. The glazing should be bullet-proof glass. Metal enclosing the unit should be armor plate.

Window installation: A wall opening should be provided as specified by the manufacturer of the unit selected. The units are usually installed directly into

Julius Shulman Photos



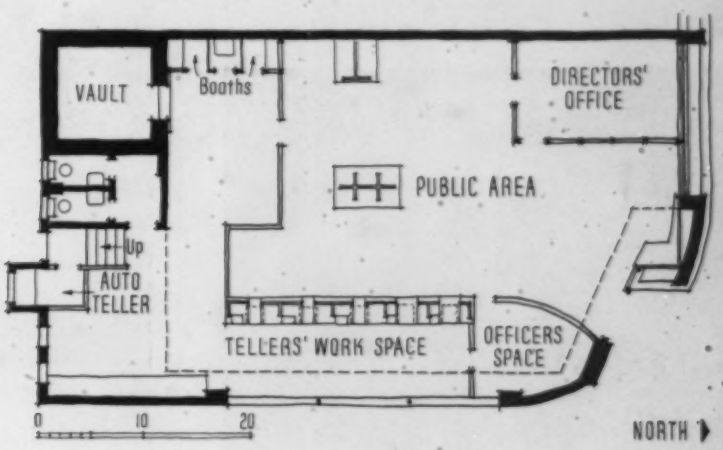
Desert Bank Inc., Cathedral City, Calif., Clark & Frey, archts. Drive-in window and parking lot for interior service provided

the space. The different window types require different mounting heights; the manufacturer's advice should also be followed on this. The average height of the bottom edge of the driver's window in a car is between 43 and 47 in. On some of the older models it is more; some of the more modern are as low as 38 in.

The window should be of sufficient width to permit full teller service. A minimum of 42 to 60 in. should provide counter space for such change machines, adding machines, etc., as might be needed.

Speaker units: Two-way speakers are generally found to be the most satisfactory means of communication between the teller and the customer. A switch permits the teller to check accounts without being overheard by the driver. The unit may also be used to amplify instructions over the parking lot.

Dual facilities lessen banking floor traffic, permit more informal relations. Open tellers' booths and lounge are used



PROMOTIONAL FEATURES

A drive-in service should be introduced to customers and the public through statement stuffers, direct mail, newspapers and other advertising. They should be fully informed on the methods of its proper use, and the directions of traffic flow. A large sign at the site is helpful to acquaint customers with the service.

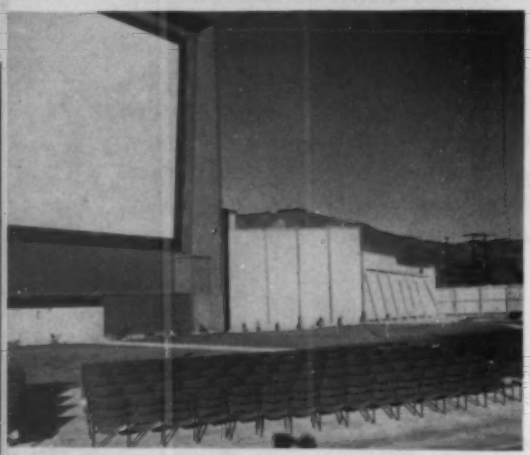
It has been found by many banks that without sufficient advertising, full use has not been made of the drive-in facilities offered to customers.

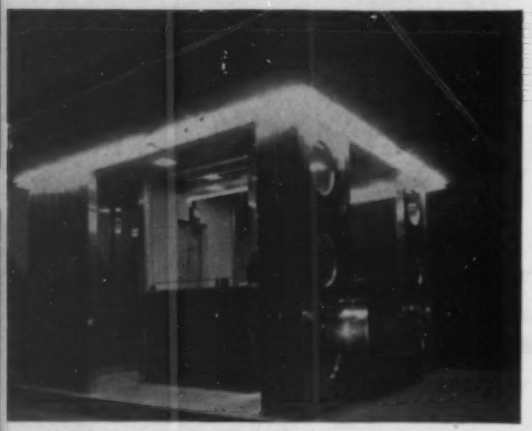
Landscaping of plots can be used to advantage for securing good will in residential areas. It should, however, be kept as simple as possible to avoid high maintenance and replacement costs.

DRIVE-INS | THEATERS

IT WAS once thought that only cities with more than 50,000 people could support a drive-in theater. Today many towns of less than 2000 draw sufficient patronage from outlying rural areas to make them profitable. Costs for drive-in theaters range from about 25,000 to half a million dollars. With success, owners often get their entire investment back in three years or so. Some financing institutions are now said to loan money on the theater's own value, without collateral.

Vic Stein Photos



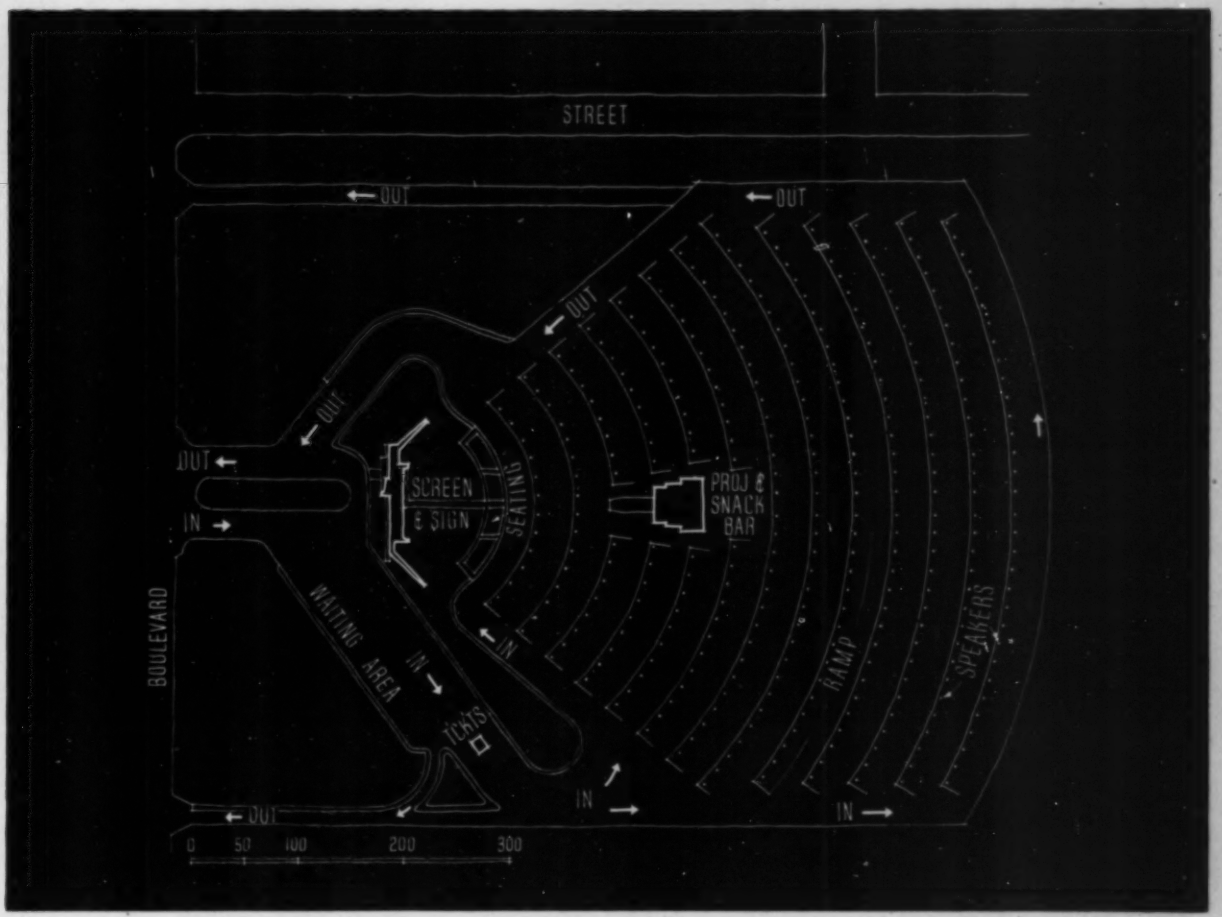


Western Photo

Baseline Theater, San Bernardino, Calif., William Glenn Balch, archt., Louis L. Bryan, assoc. General layout of ramps and speakers is shown in photo above and plan, right. Waiting area at entry keeps cars off highway; several exits ease after-show traffic congestion. Aluminum fencing surrounds the site. Photos at left (top to bottom) show principle elements of theater: entry with attraction sign and screen structure; seating area for walk-in patrons — entrance is below screen; ticket booth serves two lanes of cars simultaneously; and bottom, interior of snack bar. Photo second from bottom shows cars parked, ready for show, at Gilmore Theater, Los Angeles, Calif., also by Balch and Bryan

LOCATION OF SITE

A sufficient area of inexpensive land is the prime consideration in selecting a site. Location is generally better close to town, but theaters have been successful several miles from city limits. Many states and communities are developing codes regulating location and design of drive-ins; these should be carefully investigated. Other factors to check include: proximity to other drive-ins; nature of soil; natural drainage; simple, cheap excavation and grading; nearness to railroads or other distracting noises or odors; electricity — 220 volt, 3-phase service is needed. Drive-ins are usually best located on secondary roads connecting with major highways to prevent traffic congestion. Outside city limits, septic tanks must often be used for waste disposal, wells for water supply. Theater size should be derived from potential patronage; an average of 3.28 patrons per car was reported by *Theater Catalog, 1949–50 Edition*, from a survey conducted in the Minneapolis area.



PLOT LAYOUT

Ramps: The theater area is a series of ramps, laid out one behind the other in arcs. They are graded to elevate the front of each row of cars, permitting vision of screen above cars ahead. Sight lines and road grades must be established by size and terrain.

Capacity and size: Maximum capacity is limited by number of ramps possible with clear view of screen. Picture size is limited to lenses and projection equipment available. Until larger and brighter pictures are possible, about 1000 to 1300 cars is maximum. Smaller theaters generally average about 450 cars, larger ones near cities, 650 to 1000 cars. *Motion Picture Herald* (Feb. 14, 1948) recommends roughly 100 ft of width for each 100 cars, and the following depths (based on full radii ramps, 38 ft o.c., and speaker posts 17 ft o.c.):

Capacity	No. of Ramps	Screen to rear of ramps
500 cars	10	510 ft
586	11	548
670	12	586
778	13	624
886	14	662
1000	15	700

Entrances and exits: Provide waiting space or extra wide entrance drives to get cars off highways; say for around 30 to 40 per cent of capacity. An escape exit drive by ticket office gives patron a means of getting out when cars are stacked behind him. On leaving ramps, it is best to have cars drive forward for exit. Several well lighted exits will ease traffic congestion. Often front-footage is retained for commercial use.

Surfacing: Drives should minimize dust and not be

slippery when wet. Crushed stone topped with gravel, oil treated or black topped, is often used.

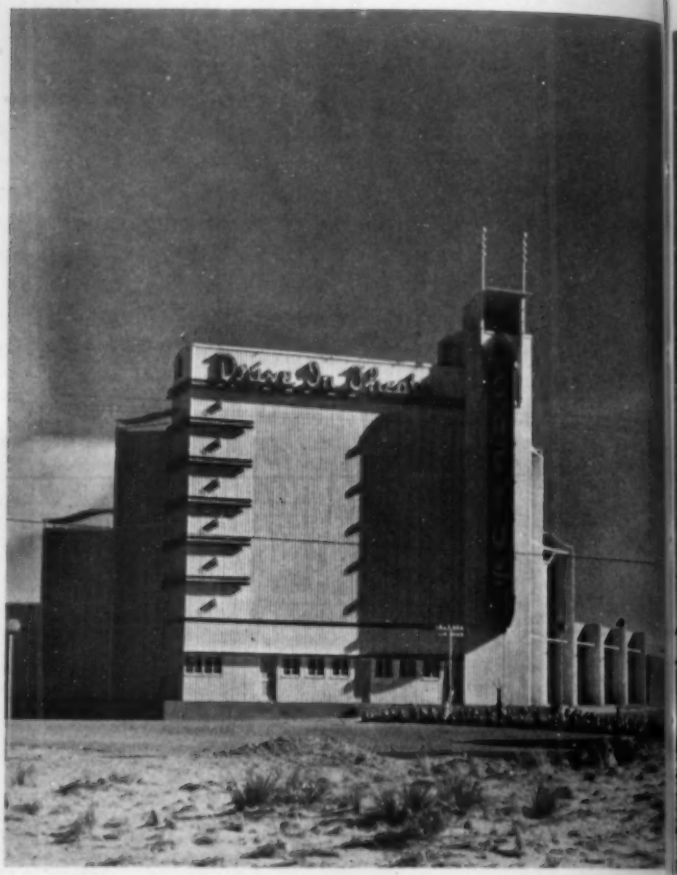
Ticket booths: Ticket selling must get patrons in quickly to start show on time. One ticket booth can usually serve up to 300 car capacity, two up to 600, three up to 800, and four up to 1000 cars.

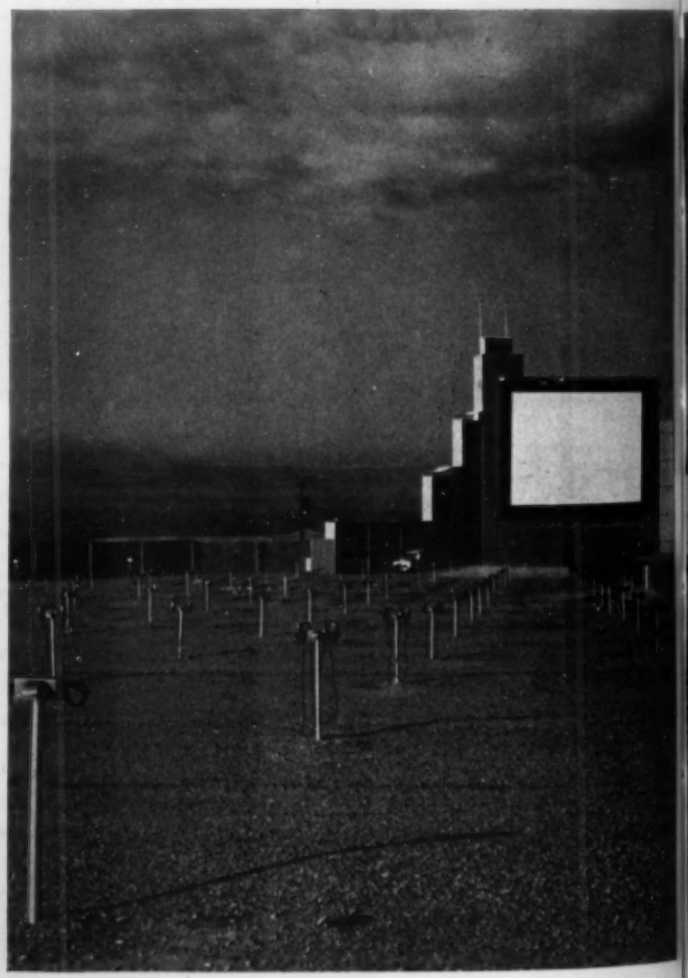
Screens: Screen towers should be placed so pictures cannot be seen from highway. Screen widths vary from 40 to 60 ft, depending on number of ramps and topography. Sizes often used are: 48 by 37 ft for 650 cars, 56 by 42 ft for 950 cars. It is desirable to face screen east or north; this blocks evening sun, permits earlier show. Height above ground is determined by ramp and sight angles. Tilting screen at top minimizes distortion. Manager's office and caretaker's apartment are often located in screen tower.

The screen may be of almost any material which will take a good covering of white paint; provisions should be made for frequent and rapid repainting. Asbestos sheets, aluminum and steel decking have been used. Minimize joints to prevent distortion and streaking. The structure should withstand at least 25 lb per sq ft wind pressure and be fire-resistant. Wood frames, structural steel, reinforced concrete, even telephone poles are used. Prefabricated units are available.

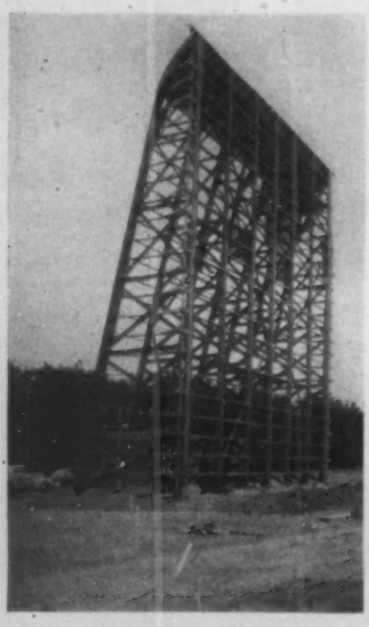
Seating area: If near residential areas, provide seating for walk-in patrons, in front of screen or by concession. A children's playground is desirable.

Photos courtesy of H. H. Robertson Co.

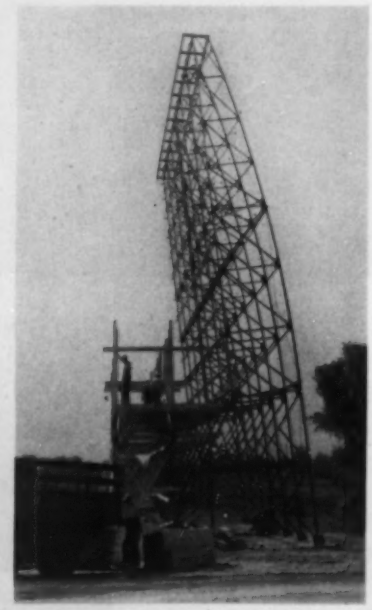




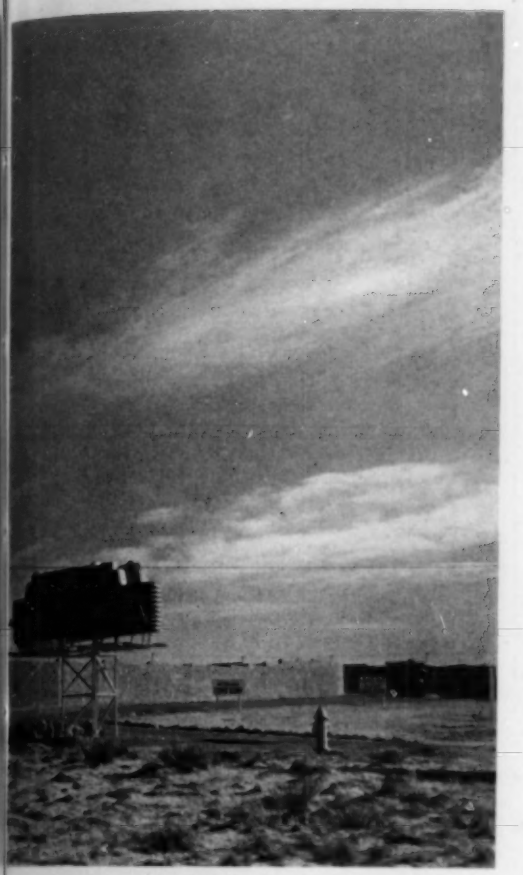
Courtesy Timber Engineering Co.



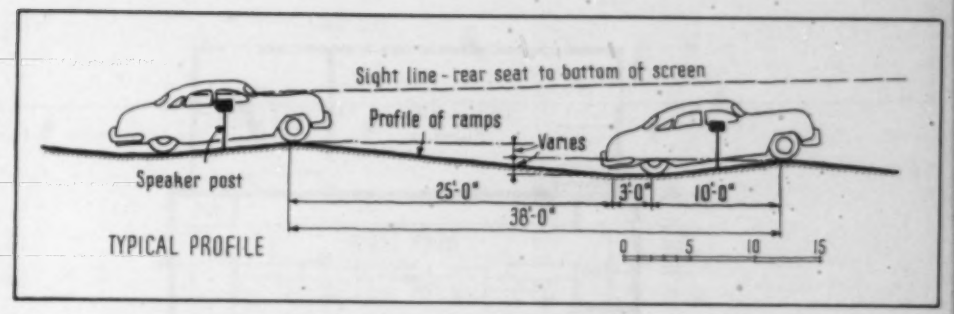
Courtesy Macomber, Inc.



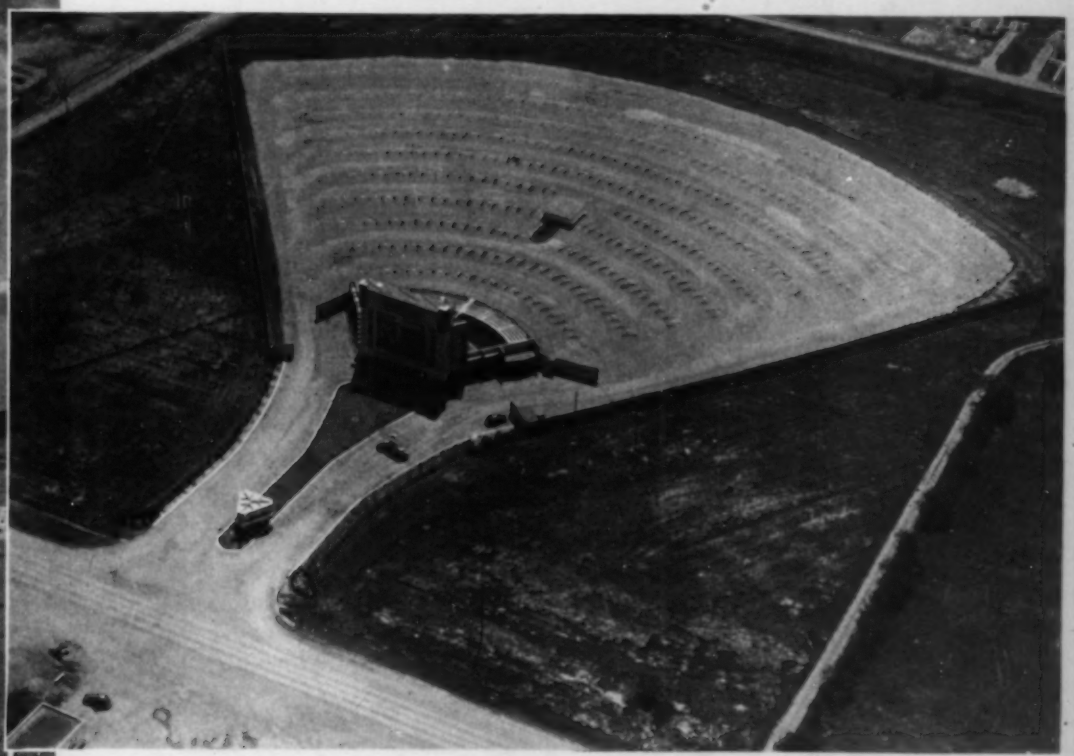
Screen towers may be fabricated of any one of a variety of materials; typical construction is shown above in wood (left) and steel (right). Structures must be wind and fire resistant for safety



Cactus Drive-in Theater, Albuquerque, N. M., Jack Corgan, archt. Fluted surfaces and relief forms are used to give play of shadow in the desert terrain. The screen tower (above left) is finished with cellular steel panels. Flat steel plates with welded joints are used for the white-painted screen surface (below left). Auxiliary buildings are also constructed of cellular steel panels. Fences enclosing the area are of brick



Jimmie Willis Photo

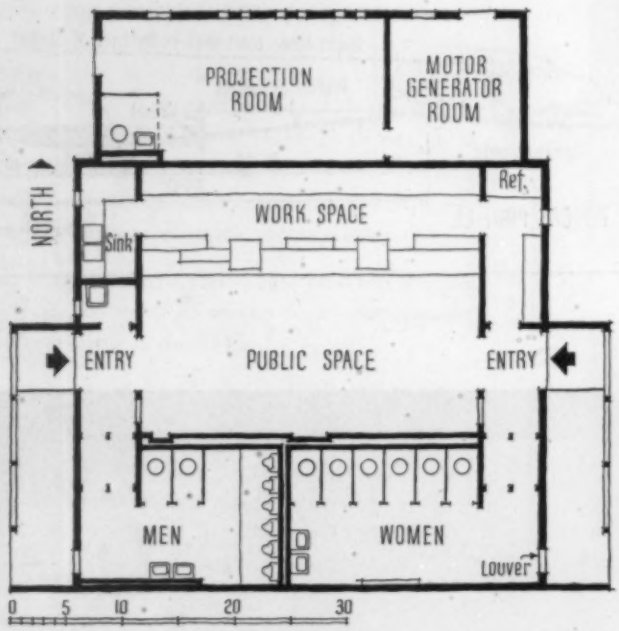


Simplest ramp layout shown in diagram and photo above; Circle Drive-in Theater, Waco, Texas, Jack Corgan, archt. Radiating fanwise from screen, ramps elevate car front for clear view over other rows. Low projection booth clears sight-lines

Projection booth: Picture size and focal length of lens control placement and design of projection booth. It is often placed about 280 ft from screen, centered in lot. Special lenses can project greater distances. Projection angle depends on ramp layout. The booth must house two operators, two projectors, a large generator, and an amplification system for speakers. Heat becomes a problem in throwing pictures such distances; water cooled equipment is often needed.

Speaker units: Sound is best served by "in-car" speakers on posts about 16 to 18 ft o.c. Each serves two cars. Speakers may be removed from posts and hooked inside cars. Underground cables supply power. Aisle and signal lights are built into many commercial models. Electric car-heaters may be used for cool weather.

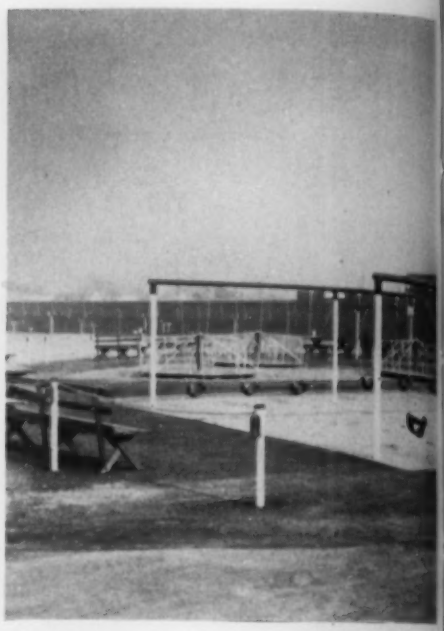
Concessions: Attractive, clean and roomy snack bars can



be an important source of income. Large numbers must be served quickly during intermissions and before showings. A terrace in front of concession allows continued viewing. Illumination must not detract from screen during showing. Service carts are used for ramp service; signal lights or an intercommunication system may be used for calling car-hops.

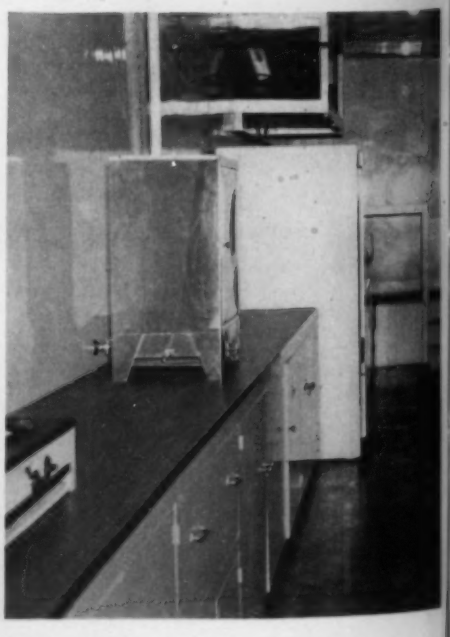
Storage: Space is needed for clean-up and repair equipment, and for supplies. If speakers, junction boxes and projection equipment are removed for winter, safe, dry storage is needed on site or in a warehouse. If left in place, waterproof covers should be used. Sprays for insect control, and fire extinguishers should be on hand.

Design notes: Illuminated signs should be placed near highway, but so as not to form a traffic hazard. The back of the screen is often used for advertising. Fencing should be high enough to cut off headlights of cars on highways. Simple, neat landscaping can help maintain desirability in the community, and attract customers.

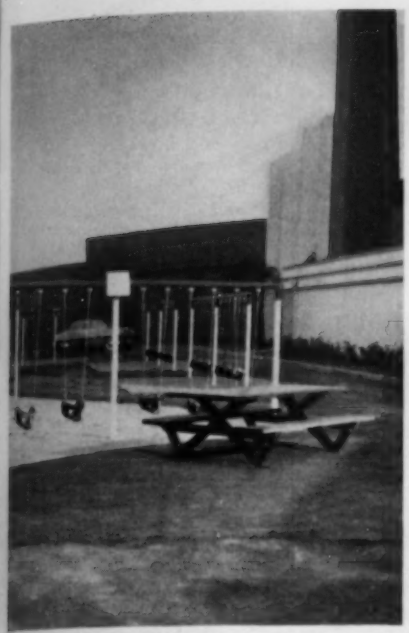


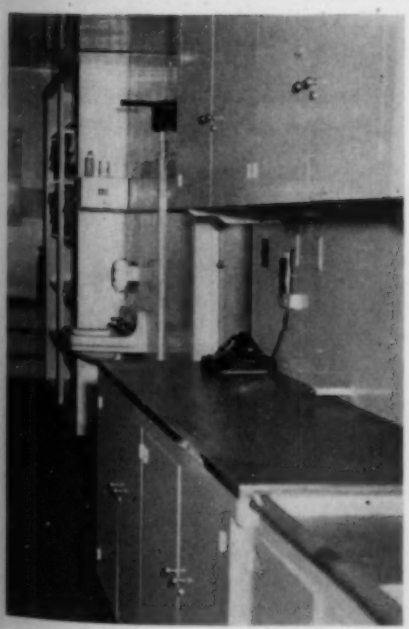
Laughorn Photo

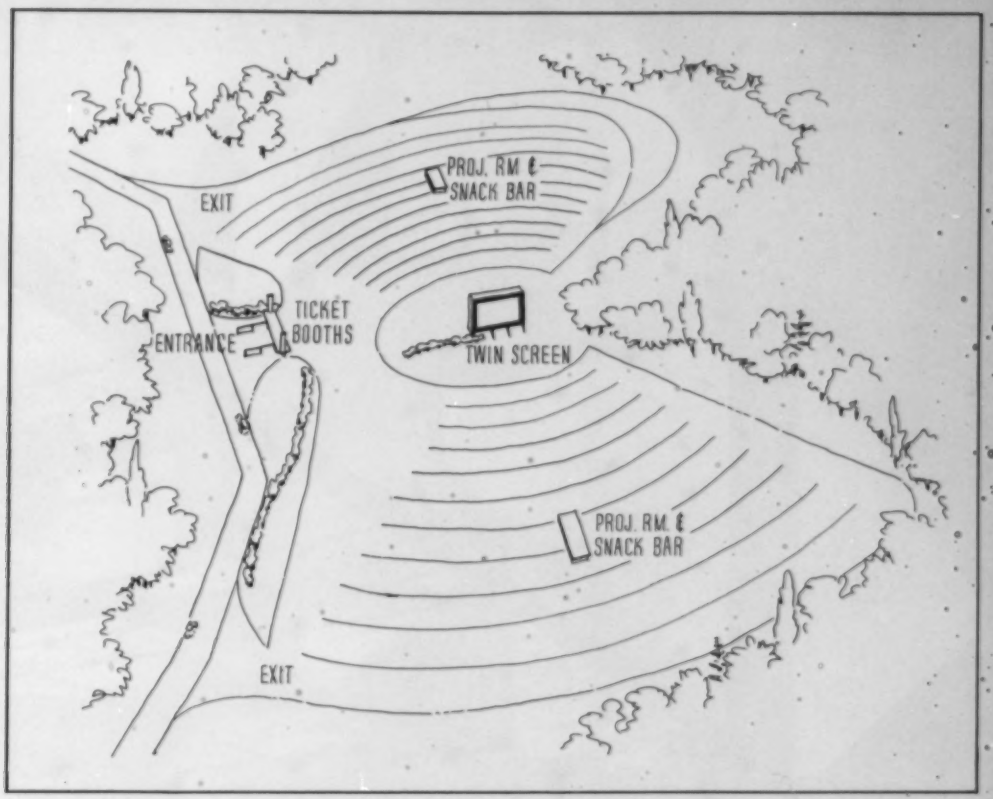
Western Photo



Omar Adams Photo

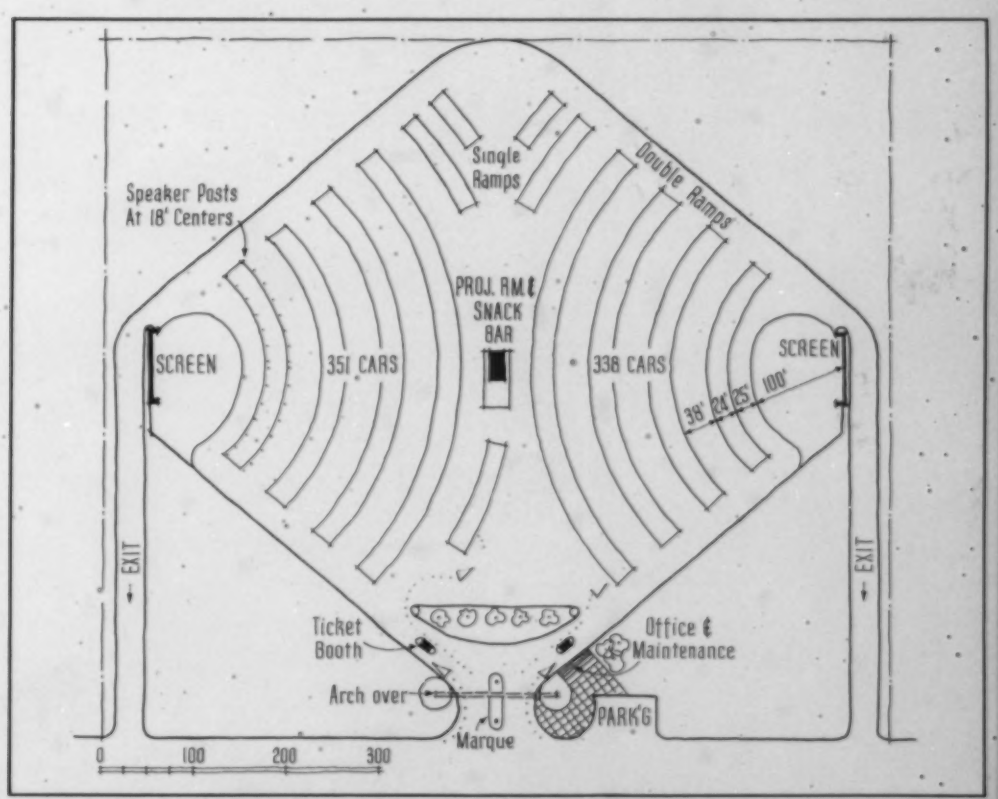






Courtesy R. C. Mahon Co.

Far left: plan of concession building, Baseline Theater. Projection booth, snack bar and toilet facilities are housed in single structure. Left: playground for children and picnic tables (top), Compton Theater, Los Angeles, Calif. Interior of snack bar (center), San Pedro Theater, Los Angeles, Calif., is closed in to prevent distraction from movie. Dispensing machines are used for quick service. Typical kitchen shown at bottom, Gage Theater, Los Angeles, Calif. All are the work of William Glenn Balch, archt., Louis L. Bryan, assoc. Sketches at right show schemes for expanding drive-in theaters by R. J. Haberstroh, engr. (above) and William Glenn Balch (below)



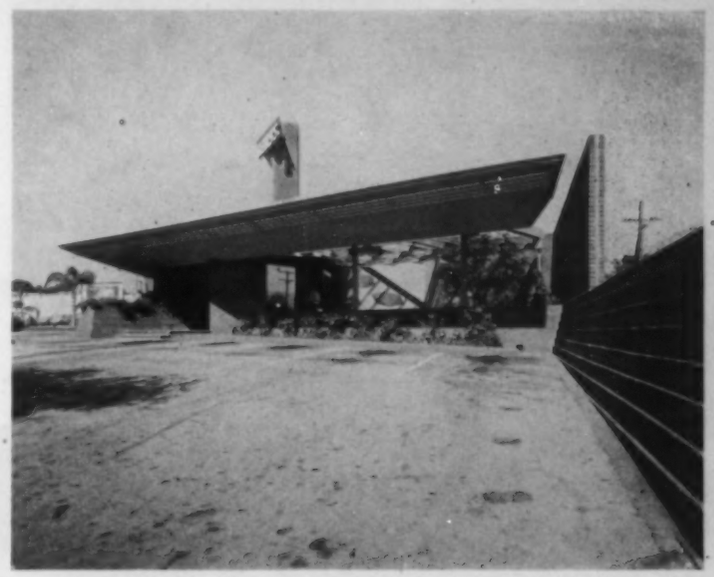
DRIVE-INS | RESTAURANTS

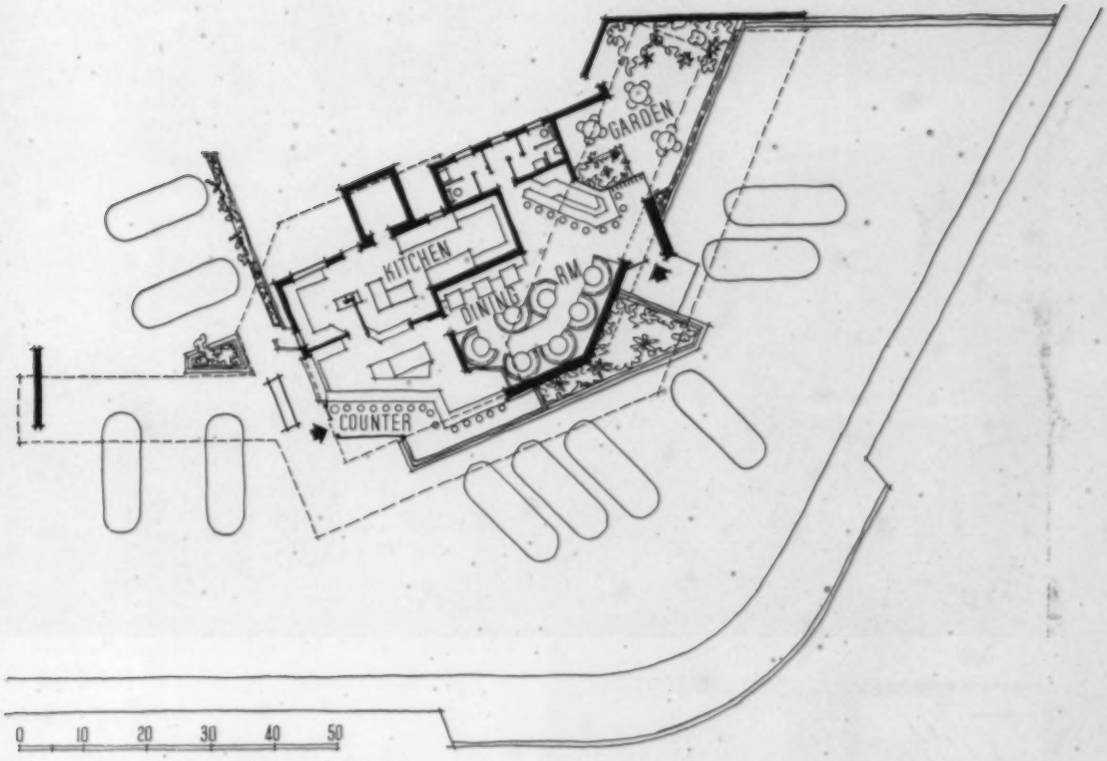
This section of the study on drive-in buildings was prepared in joint collaboration of Architectural Record *and* Restaurant Management, *in which it also appears*

DRIVE-IN restaurants include a vast range of establishments, from hamburger stands to elaborate coffee shops, dining and banquet rooms and cocktail lounges. Some cater solely to motorists, with no interior seating, others provide large parking areas for interior service. The success of all can be fostered by careful planning. Apart from good food, success factors include: adequate parking, attractive surroundings, service efficiency, and employee welfare.

Surroundings and menu should be determined by the type of clientele to be served. Tastes of business people

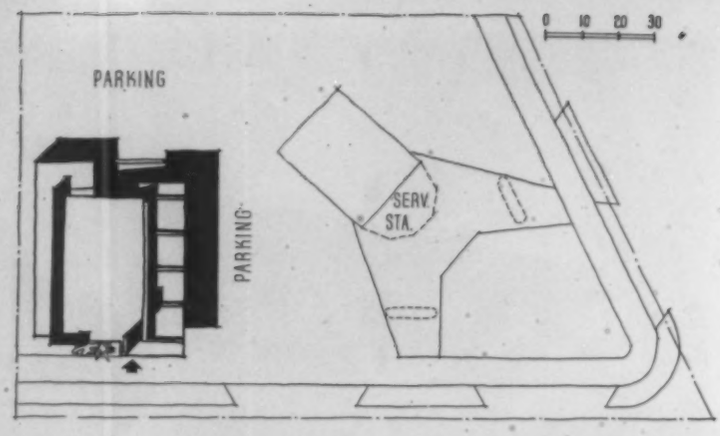
(*Continued on page 149*)





D. Garber & C. Sturges Photos

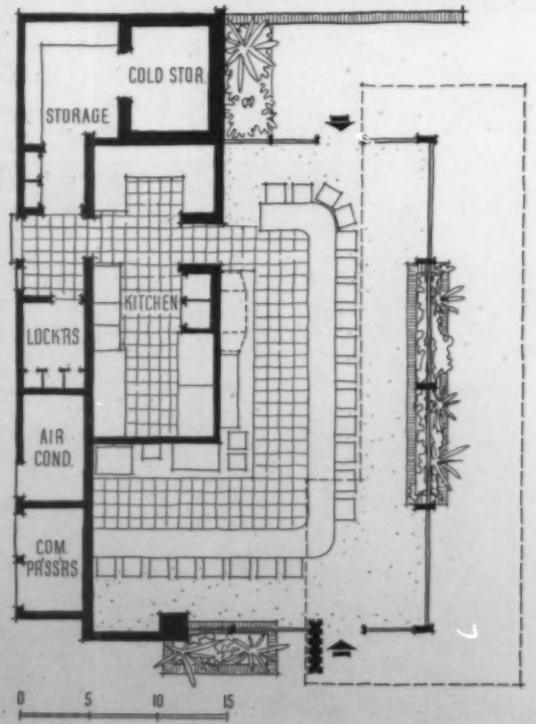
Henry's Drive-In Restaurant, Glendale, Calif.; John Lautner, Architect. Layout shows good organization of the various elements; drive-in facilities (at left in plan and photo, right) are clearly separated from those of dining room and bar. Car-hop service is well sheltered by roofs and overhangs. Garden room (top right and opposite page) takes advantage of California climate, provides cool retreat for afternoon cocktails. Structural elements have been expressed frankly as decorative devices. Kitchen and behind-counter service areas are centrally located for all food service; deliveries may be made conveniently from rear of building. Good visibility is assured sign by elevating it on tower above building



DRIVE-INS | RESTAURANTS

Biff's Restaurant, Hollywood, Calif.; Douglas Honnald, Architect. Extensive glass areas and well studied lighting are used to attract customers to this compact restaurant. Solid brick mass of service areas provides visual, as well as actual, anchorage for lean-to steel framing members of lunch room structure

George R. Szanik Photo



Van de Kamp's Restaurant (right), Los Angeles, Calif.; Wayne McAllister, Architect. Service speed and capacity of the drive-in are doubled by use of twin facilities: two service areas, two short order kitchens, two dishwashing rooms and a two-way walk-in refrigerator. Tile and stainless steel surfaces make kitchen (second from top) easy to clean. Special tray racks are loaded directly from dishwashing room. Pick-up counter (bottom) is fitted with all necessary service items. Coffee shop is located in an adjacent building

vary from those of families with children, shoppers or plant workers. Some locations will attract different people at different hours. A full menu requires large kitchens for preparation, large parking areas because of time required for consumption. Areas can be minimized by limiting choice of foods. Profit requires frequent customer turnover: convenient layouts and time-saving devices can speed food preparation and service. Labor costs can be cut if areas can be closed in slack periods.

SIZE AND LOCATION OF SITE

Size of plot depends on type and extent of facilities provided: minimum is probably 150 by 150 ft, preferably on a corner. A wide frontage is best for visibility and ease of access. Inadequate parking can create ill will. Inclusion of dining rooms, bars, etc., requires proportionately larger space.

Relationship to neighborhood: Select site which will have stable year-round patronage from near-by business, shopping or industrial centers. A low cost area toward which business is moving, or the outskirts of a dense residential area, is often advantageous. Zoning ordinances should be checked for possible changes. Check availability of such services as: sewage disposal, rubbish removal, electricity, city phones, laundry, equipment repair, food and ice supplies.

Relationship to highways: Site should be on a major traffic artery, plainly visible from a distance, and so situated that traffic can easily stop and approach property from both directions. Check for highway changes.

PLOT LAYOUT

Parking areas: Entrances, exits, and parking spaces should be clearly marked to assure maximum capacity and prevent road block. Use easily maintained surfacing; a dark color will cut down glare. The area should slope only enough for drainage; say, ¼ in. to the ft. Separate drive-in parking from that of dining areas. Set apart areas for deliveries, and for trucks and busses, if such patronage is expected.

Service walks: Allow for car bumper overhang on walks adjacent to buildings; raise about 6 in. Radiant heat is sometimes used for snow melting and for comfort of car-hops on chill evenings.

Weather protection: Canopies shelter car-hops from rain and glare. An overhang 18 ft wide will protect service to all car doors. Other methods: fixed or sliding awnings on metal frames; column-supported roofs.

Terraces and landscaping: Take full advantage of any pleasant view. Outdoor terraces or gardens with tables can be attractive and profitable; many motorists like to get out and "stretch their legs." Trees used for shade should not hamper traffic.

GENERAL PLANNING

Plans: All elements should radiate from central kitchens. Each should have separate service-ports into

Tile Council of America

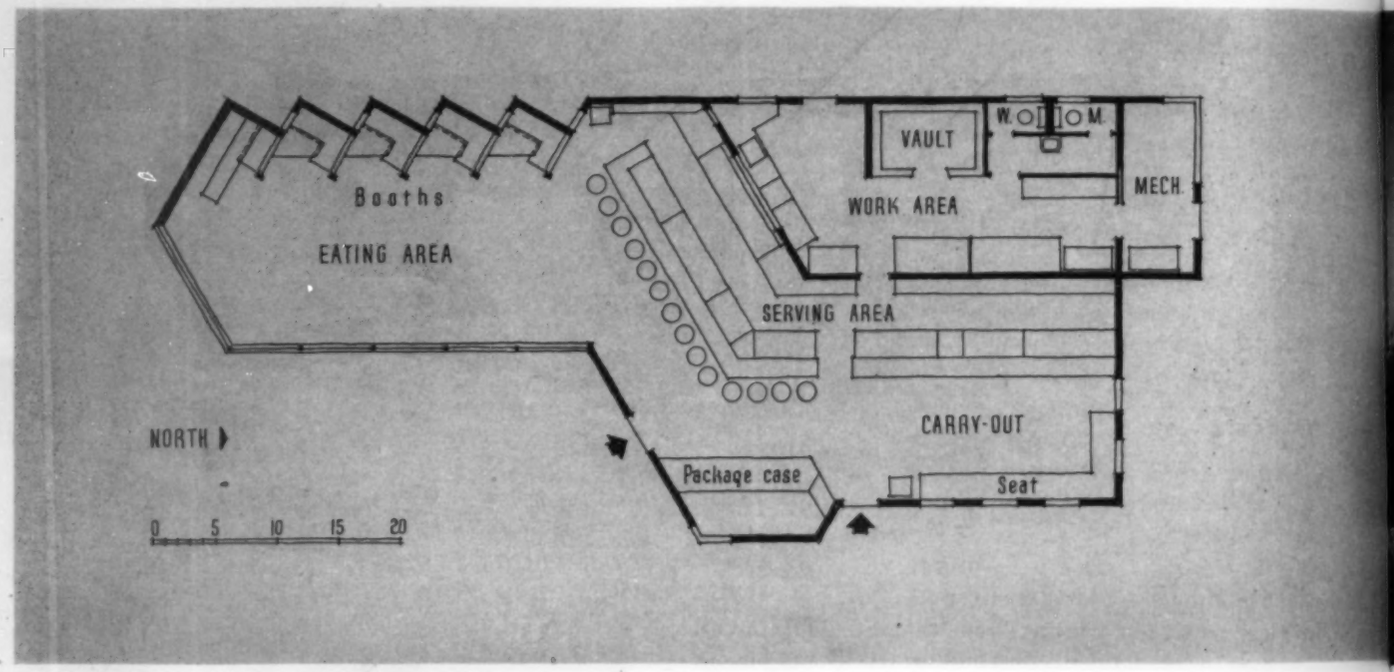
Rettig's Restaurant, Houston, Texas; MacKie & Kamrath, Architects. An interplay of wood forms and textures produce an arresting, easily identified building. Setbacks in plan permit window for each booth. Service drive is adjacent to kitchen, routes delivery trucks away from customer parking. Location of entrances permits close supervision of all areas

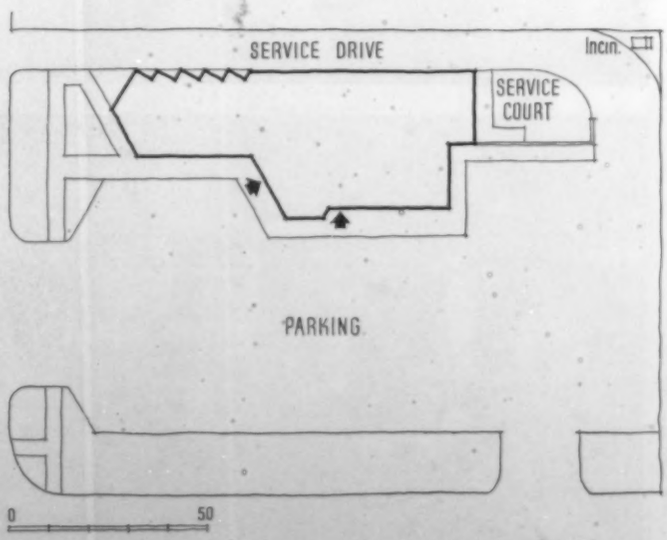
kitchen, an exterior entrance, plainly marked on outside, and interior intercommunication.

Kitchens: Group together all equipment for each operation. Allow aisles wide enough for easy passage with loaded trays. "In" and "out" doors will speed service. A rear entry should be included for deliveries and garbage removal. Labor costs can be cut if layout permits one cook to handle kitchen during quiet hours.

Dishwashing area: Locate area convenient to car-hops, counter, dining areas and kitchen; conceal from the public. Pass doors for depositing soiled dishes, and for picking up clean ones will speed service.

Pick-up counter: Allow pick-up space for 50 per cent of car-hops at one time; the average car-hop can handle 6 cars. Automatic doors ease service. Wings at each side





of counter should contain service set-ups, trays and water. Counter men should be able to reach kitchen passport, coffee urns, malt mixers, fountain and refrigerated bottle box.

Cashier's desk: If checking is done as food is delivered to car-hops, cash register should be located in pick-up space. With one cashier and both interior and car-hop service, the desk should be convenient to each and near entry for control and supervision. In small drive-ins, records might be kept here; in large concerns, a separate office is needed.

Counter service: A minimum of 30 to 36 in. clear aisle must be left behind counters. Turnover is faster and cost of operation less with counter seats than with tables. When combined with dining rooms, counters should be nearest entrance. Counter-high pass windows and a

central entrance to kitchen from behind counter are desirable. Part of counter might be devoted to dining room service.

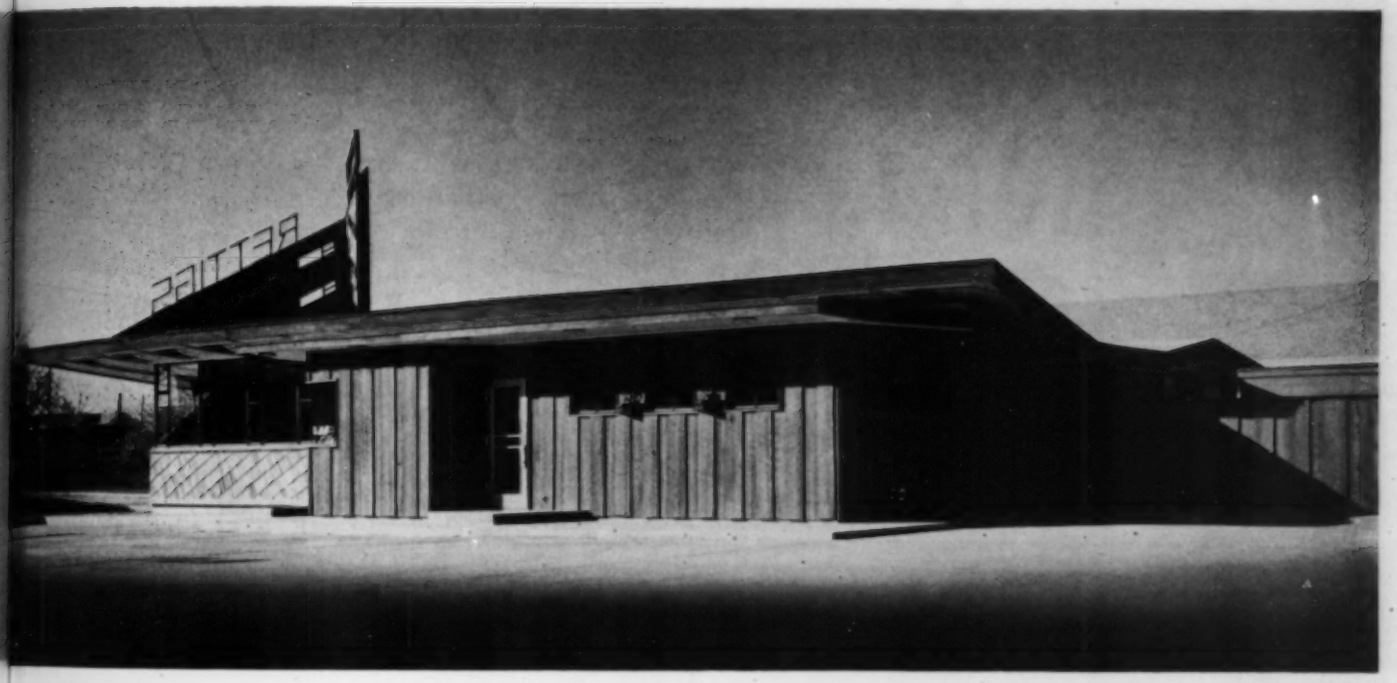
Dining rooms: Side tables should be provided with equipment for all set-ups, and with soiled linen hoppers. The most flexible table layout uses 2-seat tables, combined for groups. Booths use more space, but are preferred by some customers. Extensive dining areas require extra pantries and equipment. Protect diners against heat, moisture and sounds from kitchen.

Storage rooms: Provide for food, supply and equipment storage of all types, near delivery entrances. Protect overhead waste and water lines against drip. Cleaning equipment should be apart from food processes.

Wash rooms: Toilets should open from inside and outside where there is drive-in service. Large concerns need separate rooms for employees, with lockers for coats and changes of uniform located near by.

End wall extends at angles above building to provide unified base for restaurant signs

Mears Studio Photos



Waist-high windows allow use of built-in seats along outer wall, still permit interior and exterior views

CONSTRUCTION AND FINISHES

Construction: Climate and fire hazards are important in establishing type of construction. Many cities require fireproof materials.

Finishes should be durable and easy to keep up. Sanitation is one of the most serious problems; state and local regulations must be followed.

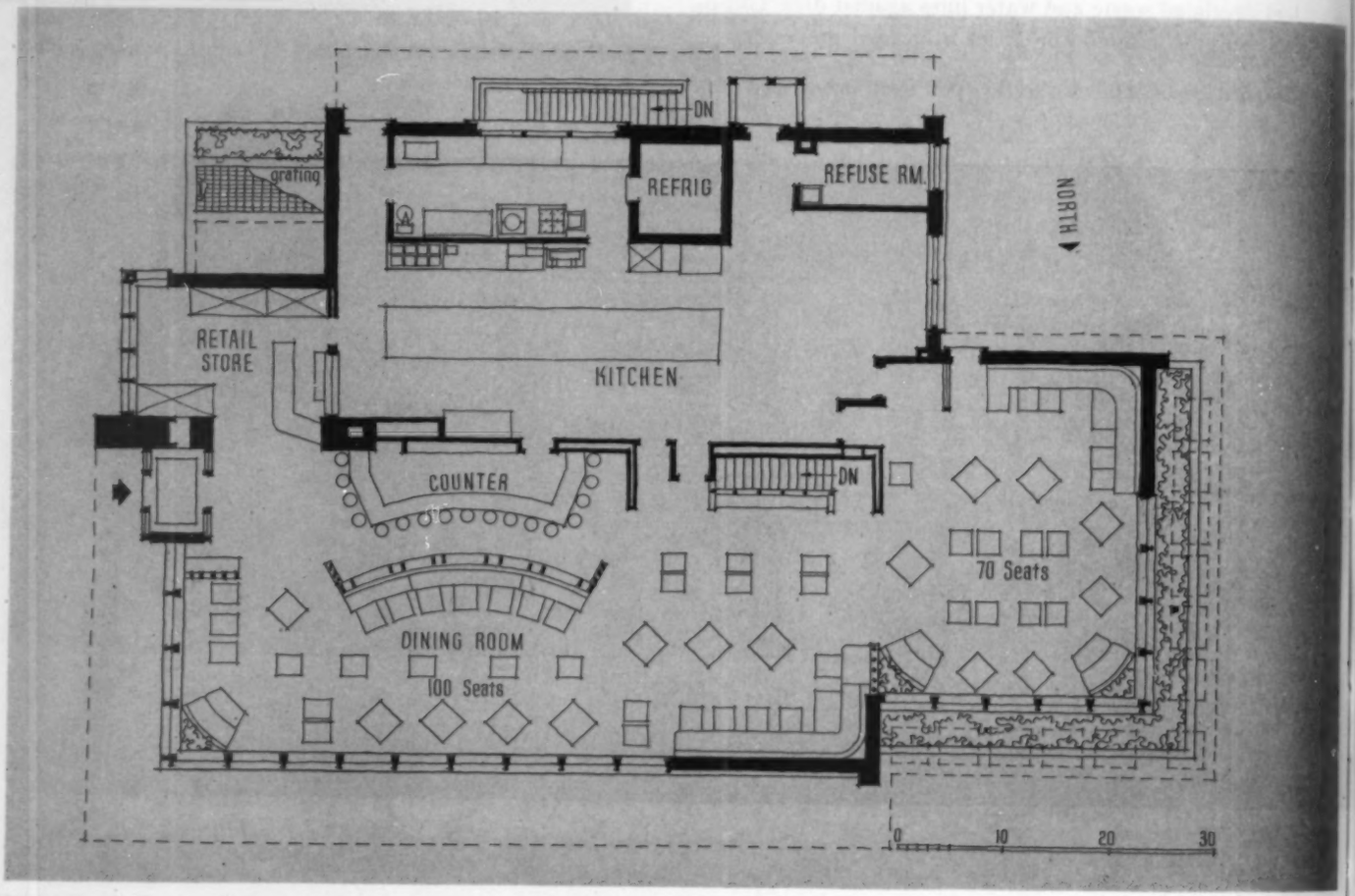
Periodic modernization of building may be necessary; construction should be adaptable.

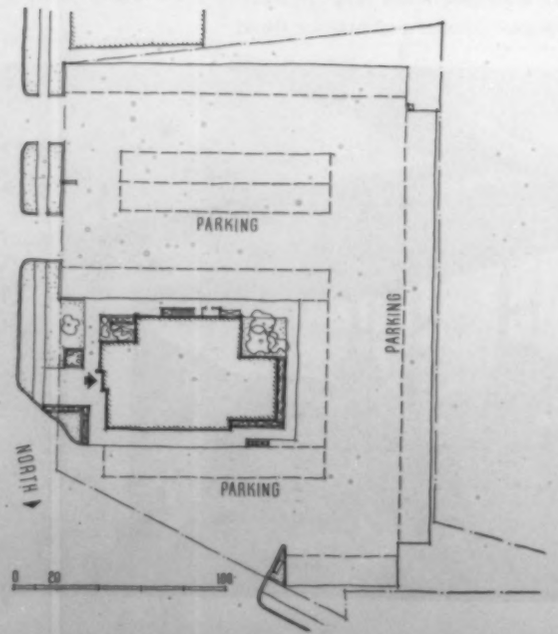
Floors: Tile, Terazzo, concrete or composition make good floors. Avoid surfaces which are slippery when

wet. Wooden slat floors in service areas should be recessed flush with floor, removable for scrubbing.

Walls: Surfaces of walls should be washable. Simple decoration is usually preferred. Plants, lighting, mirrors and color provide accent.

Counter and table tops: Materials should not discolor, scratch or chip easily. They should stand up under heavy usage and be easy to clean. Plastics, tile, linoleum and wood make good surfaces.





DESIGN AND PROMOTIONAL FEATURES

Visibility: A successful restaurant must attract motorists from a distance by signs, colors and illumination. A tower serves as a commanding billboard. Dining areas should be made visible from exterior by use of glass and illumination. Lights should never shine directly into the eyes of patrons.

Architectural treatment: It is best to avoid a superficial treatment; frank expression of structure can often make an arresting design. Standardized treatments are useful for identification of a chain.

Advertising features: Dishes, trays, uniforms, windshield cards, menus and sales books can be good advertising if well designed. Many drive-ins feature entertain-

Hot Shoppes Restaurant, Philadelphia, Pa.; Joseph Morgan, Architect. Design, both interior and exterior, expresses quiet, comfortable dining. Sense of privacy is given to interior spaces by screen partition enclosing lunch counter and folding wall between dining areas (below). Glare is controlled by overhangs, trees and thin curtains at windows. Retail shop sells food specialties to take out. Curb service is offered to motorists at rear of building

Cortlandt V. D. Hubbard Photos

ment, sometimes staged on the roof, as added customer inducement.

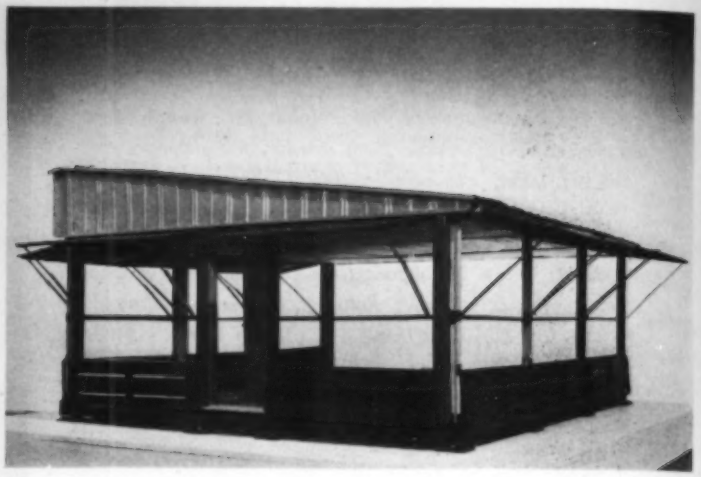
EQUIPMENT

Food preparation equipment should be of sanitary construction, easily taken apart for cleaning, and with no lead or cadmium plated parts. Electrical machines should be of same voltage. Depending on menu, kitchens should include: preparation table, broiler, fryer, range, griddle, work table, sink, refrigerator, sandwich unit, range hood and exhaust fan, food warmer, service pick-up table with refrigerator below, ice cream cabinet.

To facilitate car service, a microphone might be used to place orders; a light panel with waitresses' numbers signals when orders are ready.

Structure adaptable to: Temperate Zone

Robert Lautman Photos



Tropic Zone

ALL-PURPOSE MILITARY SHELTER

HARDLY ever must a structure meet such varied and numerous requirements as did this proposed prefabricated Army shelter. To satisfy these, many departures from conventional construction were necessary — for example designing with a safety factor of one!

Nevertheless, much of the thinking that went into the design might well be put to work in the analysis of the structures for other buildings, including both strength of materials and prefabrication possibilities.

After restudying the prefabricated steel and pre-cut wood buildings used in World War II, which were packaged and shipped for a particular use in one climate, the Army established new requirements for an all purpose, "theater of operations" structure.

Essentially these amounted to a basic unit which would have to be adaptable to all climates; capable of being combined for a number of different building sizes and shapes; easily erected, dismantled, and moved to another location; and designed so as to be built with a variety of materials, any of which could be stored in a minimum of standard and interchangeable packages (this would permit substitutions in case supply of one or another became critical).

Out of these requirements came a project on which preliminary work was done by the Corps of Engineers. It was then assigned to the architects for development, resulting in the proposed all-purpose building shown here.

Military Requirements

Size. The Army wanted the building unit to be 20 ft wide and the length to be variable within a suitable module (this turned out to be 8 ft). The structure was to be designed so that two 20-ft width units can be placed side by side to form a 40-ft width building with center supports. The two widths can provide for many military requirements such as barracks, mess halls, hospitals, warehouses, etc.

A shed-type roof facilitates arrangements of units in 40-ft widths and in buildings with projecting wings, avoiding the drainage problem of intersecting eaves.

Packaging and Erection. The prefabricated building components would be packed for 20 by 48 ft building units, divided according to four "phases": (1) structural frame and roof; (2) exterior wall covering, including doors and windows; (3) floor; (4) insulation. Building erection would follow this order. Each package contains all the parts necessary to complete its phase of the 20 by 48 ft unit.

Phase 1 — Structural frame and roof. This is the basic package, comprising footings, frame members and roof parts which would be used for all climates and in all combinations of building shapes. This portion may be erected without any of the other components, and, if necessary, may be used with improvised or substitute wall materials.

Priority of effort would go toward getting this phase to its destination. Under some emergency conditions, Phase 1 might be shipped to an area which could not be supplied with other prefabricated components because of a shortage in shipping. This sort of packaging and distribution system makes it more certain that the personnel will have a roof over their heads at the earliest possible moment.

Phase 2 — Exterior walls, doors and windows. Obviously this Phase is secondary to Phase 1 both in order of erection and necessity.

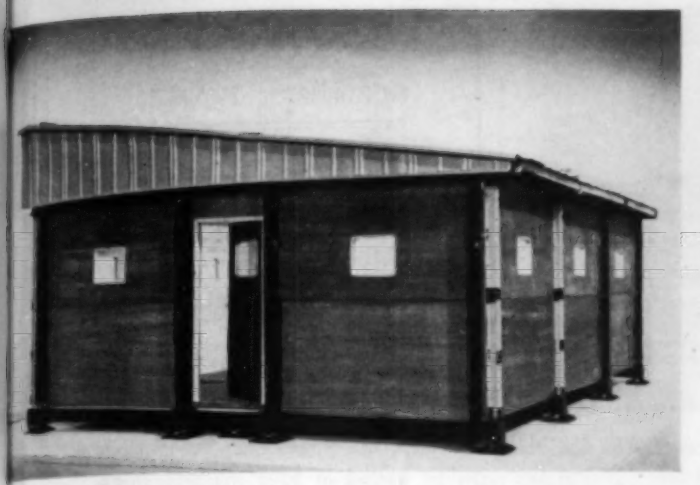
Phase 3 — Floor. The floor is to be installed after the frame and walls, rather than conventionally. The floor can be either prefabricated panels which fasten to the structural frame, or of gravel, sand, prepared earth and concrete. Floors constructed of locally available lumber or crating materials are also visualized.

Phase 3 — Insulation. Reflective type metal sheets for the ceiling are the only insulation for the Tropic Zone. Temperate Zone insulation comprises 4 by 8 ft panels combining insulation and interior wall and ceiling finish. For the Frigid Zone, insulation is not packaged as a separate phase but is combined with exterior walls, floor and ceiling.

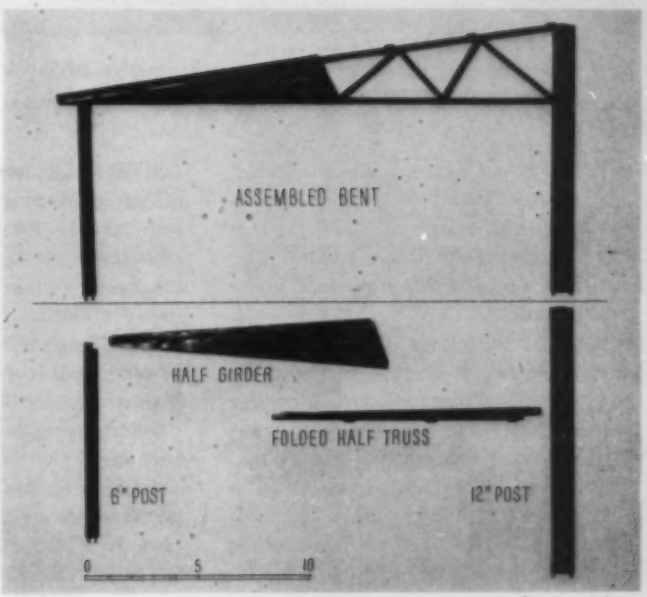
Determining Structural Form

Extensive preliminary studies were conducted to ascertain what structural form was most economical and efficient in the use of materials. Eighteen designs were investigated including frameless buildings constructed of deep corrugated metal pans, 2-hinged shed-type frames, 2-hinged A-type frames, symmetrical 3-hinged frames and asymmetrical 3-hinged frames.

They were compared by tabulation of ratings as to cost, shipping cubage and



Frigid Zone



Frame and roof works for all zones

Hugh Johnson Associates, Architects

Paul Weidlinger, Structural Consultant

10 other factors indicating to what degree they met the special requirements of the program.

The most important of the conclusions reached after the different systems were studied are:

1. That a framed rather than a panel type building was indicated by the emphasis on the Phase 1 minimum package, and by the need for maximum opening of side walls for ventilation in the Tropics.

2. That both interior and exterior surfaces of framing members should form unobstructed planes for application of wall and ceiling materials. This eliminated curved forms, knee braces, etc., but would provide ideal conditions for material substitution and would permit placing wall materials either inside the frame, outside the frame or both.

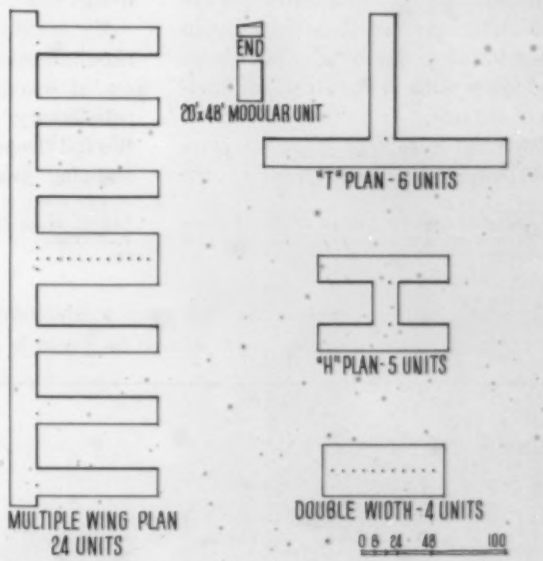
3. For logistic efficiency, the frame should be designed in at least two common structural materials, steel and wood, with interchangeability of major components possible. Aluminum is another possibility which has been studied, but as yet no designs have been completed.

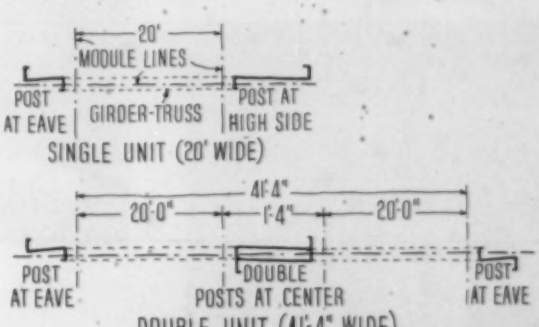
The 3-hinged asymmetrical frame came out best in the comparative evaluation with other types of framing for both wood and steel. In regard to cost or structural efficiency alone, one other scheme was slightly superior, but this advantage was more than offset by the increased shipping space required for 20 by 48 ft units.

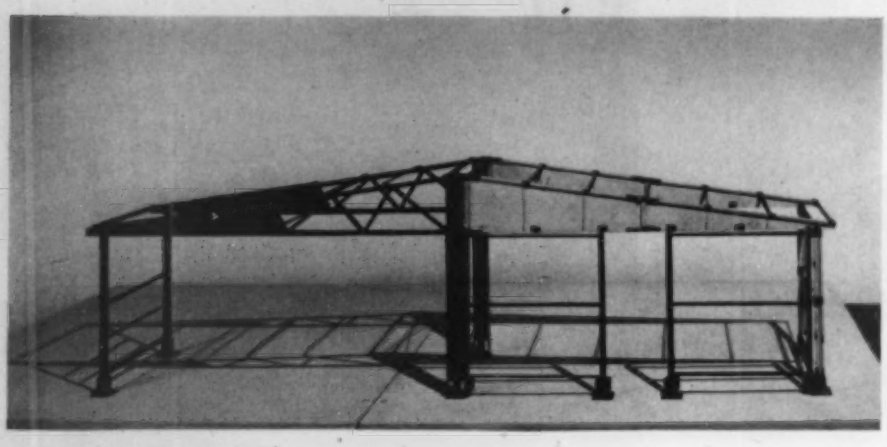
The structural design presented three unusual problems:

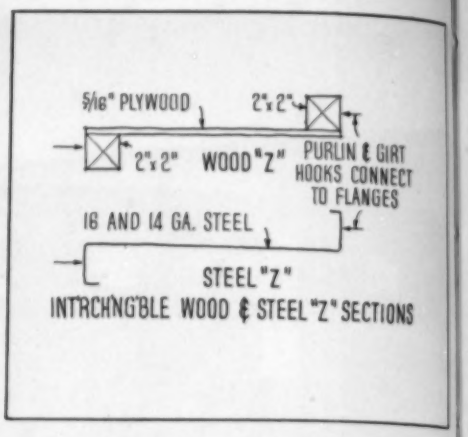
(1) application of light gage steel to medium sized spans (20 ft); (2) inter-

Basic unit combines for many sizes and shapes









Steel and wood framing members are interchangeable so there can be a substitution in case supply of one or the other becomes critical. The "Z" shape of posts not only permits interchangeability, but also lets posts be nested to save shipping space

changeability of steel framing with wood and plywood members of identical dimensions; (3) design of the structure and its components for a comparatively low service load with a *theoretical safety factor of one.*

Each of these is a departure from more conventional specifications, the last of the three the most radical.

Problem 1. Although light gage members are not new in structural design, this project offered an opportunity to analyze and compare various sizes of light gage steel members with other common types of framing.

The design followed provisions of the American Iron and Steel Institute (A.I.S.I.) code,* with modifications to satisfy requirements in Problem 3. This code provided considerable help to the structural designer, as its provisions are based on the most up-to-date studies in elastic stability, many of which have found application in the structural analysis of aircraft.

Although the framing design was completed before the publication of the A.I.S.I. design manual,† the proportions of the members for maximum effectiveness closely corresponded to similar provisions of the manual, whenever functional requirements permitted the use of optimum dimensions. The use of "most effective proportions" can result in considerable economies, so it seems highly desirable that dimensions of light gage members be standardized as has been done with ordinary weights.

Problem 2. The requirement here imposed a very special and unusual limitation. It is almost impossible to obtain the most efficient design in two such diverse materials as steel and wood, if the geometrical dimensions of the members are to be identical. The same is true about the substitution of aluminum, which also was investigated during the design process.

By keeping in mind both materials simultaneously during the design process, it was possible to obtain a highly satisfactory compromise. This double life and the necessity for use of minimum shipping space accounts for the use of "Z" sections in both steel and wood and for some of the other unconventional solutions.

The most pronounced of such effects is evident in the details of the roof girder. Its depth was determined by the requirements of the plywood girder; therefore, for the steel girder the ineffective web section at the high end (which would have buckled) was removed and transformed into an open web truss (collapsible for shipment) with resulting weight and space savings.

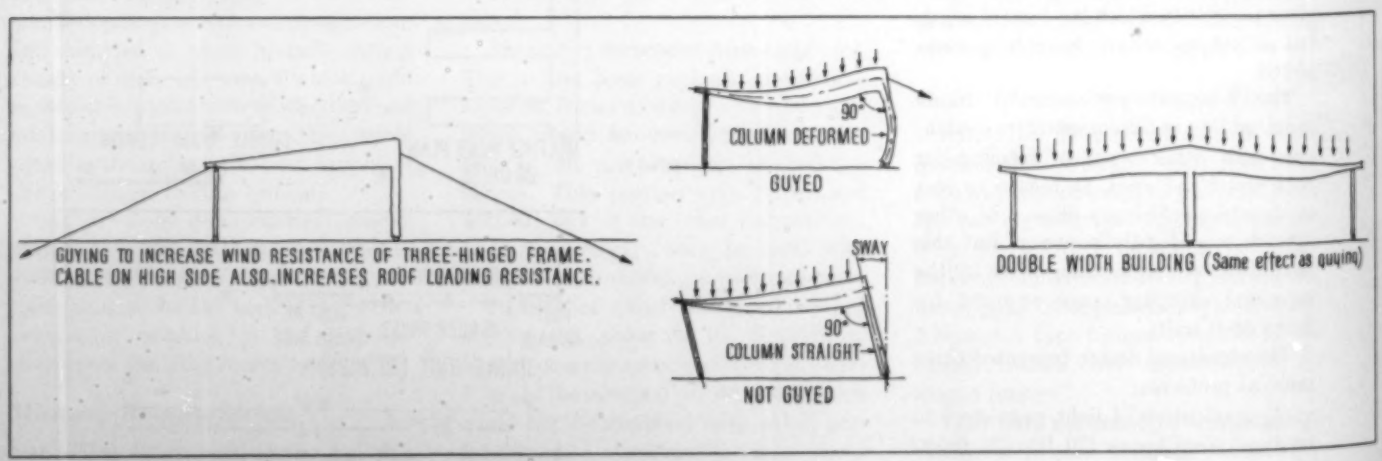
Problem 3. Some of the very interesting conclusions that came out of this problem are: (a) The lowering of the safety factor does not necessarily result in a very large savings. In the steel design, this factor was reduced from 1.85 (as used in the Specifications) to 1.00.

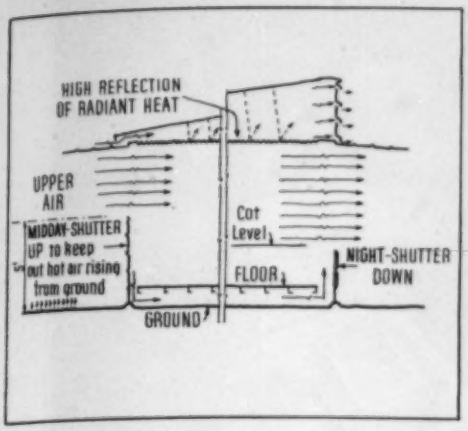
(b) It is hardly possible to take full advantage of the reduction of the safety factor consistently in all elements. In many instances, requirements of fabrication, or the danger of distortion during transportation or erection, resulted in heavier sections than were required to carry the load. Sometimes, connections become virtually impossible to accom-

* *Specification for the Design of Light Gage Steel Structural Members, A.I.S.I., April 1946*

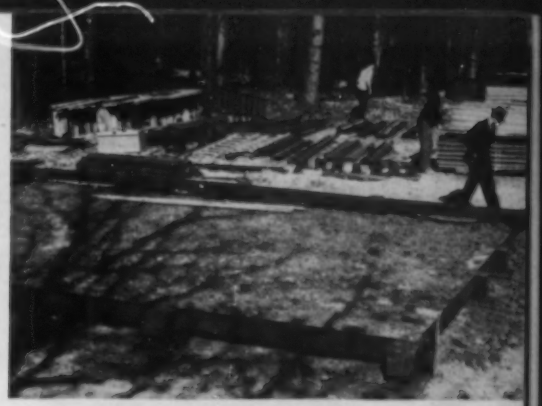
† *Light Gage Steel Design Manual, A.I.S.I., Jan. 1949*

The structure was designed with a theoretical safety factor of one; so, in the event of a wind storm, it must be guyed to give it increased strength. Sketches show action under loading. The structure always deforms in a manner requiring the least work





To keep Tropic shelter cool: awning and side shutters plus a reflective ceiling



Photos at right show erection process. Footings (above) set on top of ground, are adjustable through a range of 3 in.

plish, if the members were to have the theoretical dimensions.

(c) The most significant aspect of the theoretical safety factor, itself, was demonstrated during tests performed at the National Bureau of Standards. The design load was to be "ultimate strength before buckling." During tests at the design load buckling waves appeared at the locations predicted by analysis. But the structure, after having passed the stage of elastic limit, seemed to readjust itself under increased loading, performing well above the design load, in spite of visible damage and deformations.

These results should be useful in the design of more conventional structures, inasmuch as they throw some light on the efficiency and excellent performance of light gage members, afford an objective comparison of the performance of various structural materials and also clarify the effect of lowering the factor of safety as it is commonly understood.

Substitution of Materials

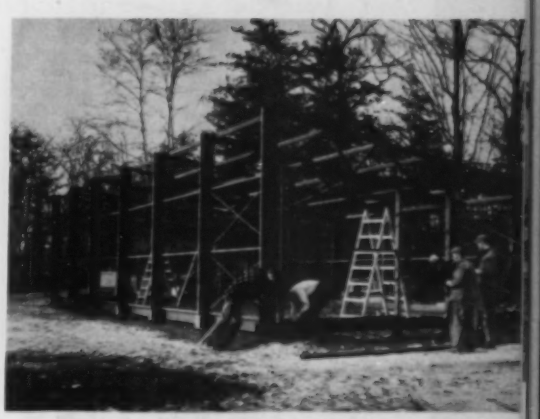
The solution to providing substitutions for critical materials in war time has three aspects:

(*1*) *Structural Members.* It is assumed that the frame would be prefabricated to standard patterns, permitting the use of alternate, interchangeable materials. Plastics and other materials were considered, but it was decided that the most commonly used construction materials, consequently steel and wood, would be most likely to be available, and that's the way the problem was attacked.

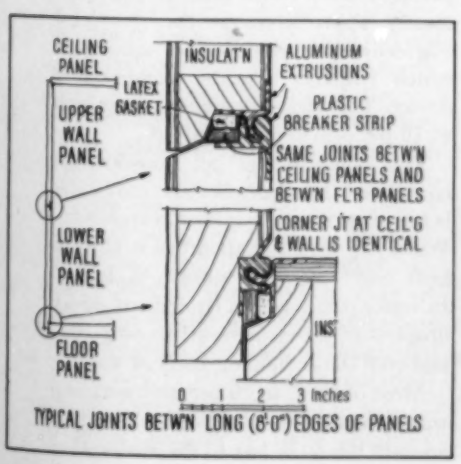
(*2*) *Prefabricated Covering Materials.* All other prefabricated parts of the building may be designed in interchangeable materials. For example, preliminary designs were made of roof sheets in aluminum, plywood, corrugated molded plastic and flat plastic laminate. The same procedure can be followed for floors, ceilings and walls.

(*3*) *Non-prefabricated Covering Materials.* Under emergency conditions where only the frame and roof (Phase I) might be available, the frame might be enclosed in some improvised material. Wood nailing strips can be secured to the 18-gage steel girts with drive screws, after which lumber, wall board, canvas,

(*Continued on page 220*)

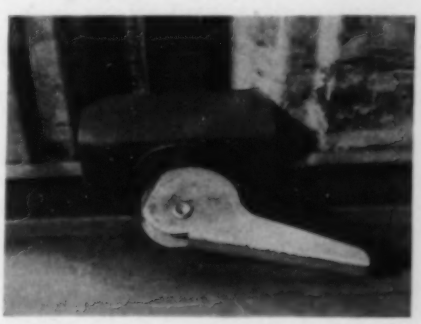


Insulated shell of Frigid shelter employs unique aluminum extrusions for connections



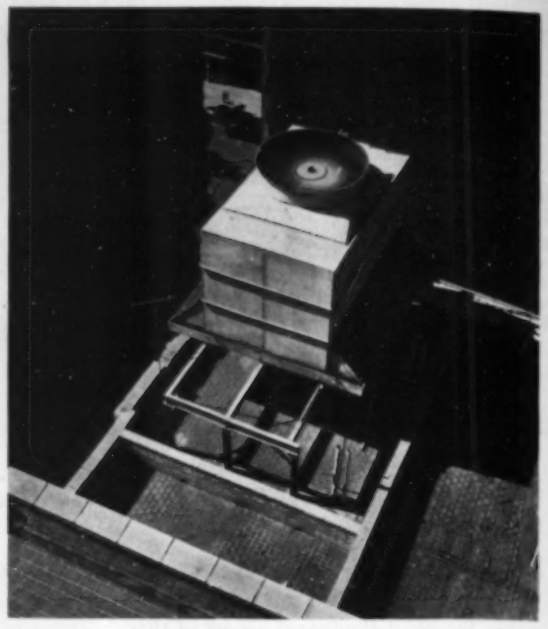
TYPICAL JOINTS BETW'N LONG (8'-0") EDGES OF PANELS

Special fasteners, such as the cams which hold on the roof, are used throughout. Note (right) that floor goes in after walls



WATER SAVING DEVICES FOR AIR CONDITIONING

By Lawrence A. Benenson, Architect



Courtesy Thermal Products: Photo by Joseph Molitor

Mechanical draft cooling tower (induced type) atop Essex House, N. Y. Capacity 200 refrigeration tons

WATER CURBS FIXED ON AIR CONDITIONING

Refrigeration Units Affected in Rules Expected to Save Billions of Gallons Yearly

7,000 INSTALLATIONS HERE

Water May Be Shut Off Next Summer if Machine Uses Over 6 Gallons a Minute

The Water Situation

The following figures as of 8 A. M. yesterday give the number of gallons in the city's reservoirs. The difference in the

The New York Times, January 5, 1950

After New York City set up restrictions early this year on the consumption of water by air conditioning equipment, ARCHITECTURAL RECORD was prompted to find out what other cities had water supply or disposal problems such that water conservation devices are mandatory.

In a survey to all cities in the U. S. over 100,000 population, the RECORD learned in 50 replies that seven (in addition to N. Y.) had legislation requiring this equipment: Yonkers, N. Y., Rochester, N. Y., Newark, N. J., Columbus, O., New Orleans, La., Oklahoma City, Okla. and Reading, Pa. Similar legislation was being prepared in three other cities. Thirteen had some sort of standby legislation that could be invoked in case of shortage. In other cities like Houston, water conservation is self imposed, generally because of cost.

In view of the potential importance to architects and engineers of equipment to save cooling water, the RECORD had the author prepare this article.

THE RECENT water shortage in New York City has focused attention on a nationwide water problem. The country is suffering from maldistribution of its water resources; certain communities have water to spare, while others, like New York, find it difficult to supply water for all necessary services. The increasing use of air-conditioning has brought with it a demand for large quantities of water to cool the refrigerant.

Wherever water is short in supply or costly, air-conditioning without water conservation equipment causes needless waste. Conservation devices can save 90 per cent or more water that otherwise would go down the drain.

Use of water conservation with refrigeration equipment is not new. Recirculation of cooling water has been used for many years. Cooling towers have been in operation in those cities where water is too expensive to throw away, where restrictions have been placed on its use, or where the sewerage system will not allow large, unrestricted quantities.

While the public has become more conscious of the advantages of summer comfort, it also has become increasingly aware of the tremendous loss of water it will suffer if waste is uncurbed. Conservation equipment will become increasingly necessary in the years to come, as one of the prime requisites of satisfactory air-conditioning, both for economical design and for the public interest.

Sources of Cooling Water

In some communities it is practical to drill special wells to obtain cooling water. Usually the cost of drilling a well is far more expensive than installing a cooling tower.

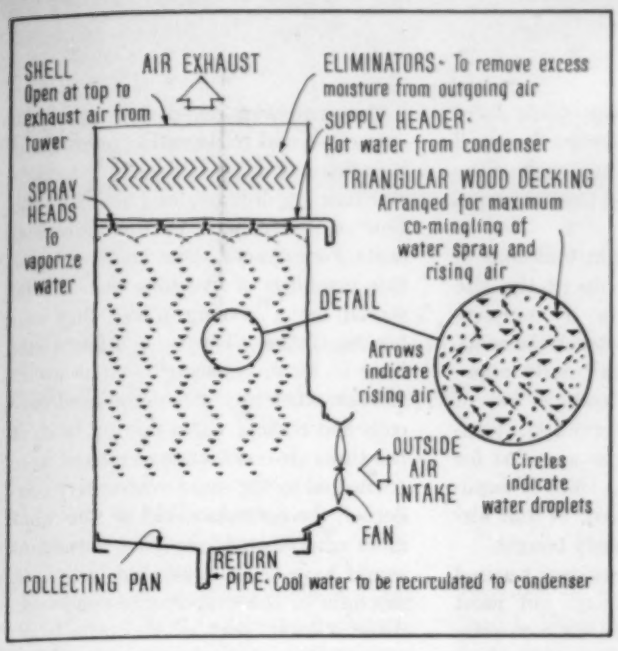
The chief advantage of well water is that it is quite cold and that the cost of purifying it is not expensive.

A Freon or ammonia air-conditioning system will ordinarily require approximately 90 gallons of city water an hour for each ton of refrigeration (12,000 Btu's of cooling per hour). Since a ton of refrigeration is a relatively small amount of cooling — perhaps enough for the average living room with several people in it on a very hot day — it is apparent that the amount of water necessary for a large installation will be very great. Water recirculating devices such as cooling towers, evaporative condensers, or the less popular spray ponds can reduce the cooling water necessary approximately 90 to 95 per cent.

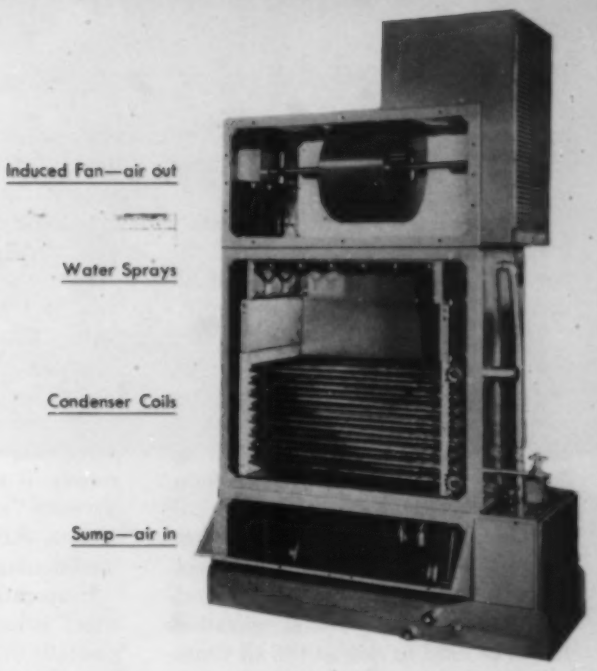
Balanced against this saving will be the cost of the water conservation equipment, its depreciation, and the cost of electrical power for the fans and pumps. Another loss, and one not sufficiently appreciated, is the decreased efficiency of the refrigeration equipment which employs a water conservation device. This loss may amount to as high as 10 per cent reduced output.

The operation of all conservation equipment that continuously cools water is based on the principle of evaporation. When any liquid evaporates, it absorbs heat and cools the surface it leaves. In water conservation equipment, spray droplets of water are used to evaporate and cool the remaining body of water.

Most of the 5 to 10 per cent make-up water required is evaporation loss. This amount has to be lost to the atmosphere


SHELL
Open at top to exhaust air from tower
AIR EXHAUST
ELIMINATORS - To remove excess moisture from outgoing air
SUPPLY HEADER - Hot water from condenser
TRIANGULAR WOOD DECKING
Arranged for maximum co-mingling of water spray and rising air
SPRAY HEADS To vaporize water
DETAIL
Arrows indicate rising air
OUTSIDE AIR INTAKE
Circles indicate water droplets
FAN
RETURN PIPE - Cool water to be recirculated to condenser
COLLECTING PAN

Operation of forced draft cooling tower. Air pushed up through tower evaporates part of water traveling down, causing cooling



Courtesy Worthington Pump and Machine Corp.

Evaporative condenser sprays cooling water over refrigerant condensing coils; water is then collected and recirculated

in order to cool the remainder of the water sufficiently for re-use.

There are three different types of conservation devices, each with its own particular applications.

Spray Ponds. These are large ponds with a series of small nozzles mounted about 6-ft above the surface to spray water into the air. About 10 per cent of the water is lost by evaporation to the air, and the remainder is cooled to be re-used by the condenser coils of the refrigerating machine. The surface of the pond also loses a small part by evaporation which helps cool the main body of water. The warm water from the condenser coils is piped to the spray nozzles, while the cooler water collects at the bottom and is recirculated back to the condenser.

Naturally the amount of evaporation, and consequently efficiency, is dependent on the prevailing weather. For instance, the usual spray pond installation is designed for a 5-mph wind blowing over it. On a very hot, calm day the spray pond cannot operate satisfactorily, which will impair the use of the air-conditioning system at the worst time. On the other hand, if the wind is much higher than 5-mph, there is the danger that the spray pond will lose some of its water over the edges, a condition known as "drift". The principal difficulty of spray ponds is that they require such a large area for installation. They can either be placed on the ground or on a roof. If installed on a roof, drift may be a very serious hazard to passers-by below. Because of these problems, spray ponds have lost favor for most installations.

Certain large low buildings located in open areas have tried spray ponds on their roofs. The large area of water accomplishes two purposes; first as a water conservation device, and secondly as insulation for the air-conditioned area against the effect of the direct rays of the sun.

With a spray pond on a roof, it is sometimes possible to utilize smaller refrigerating equipment for the air-conditioning system, an economy of some importance. However, this application of spray ponds is not common, and engineers usually depend on cooling towers or evaporative condensers.

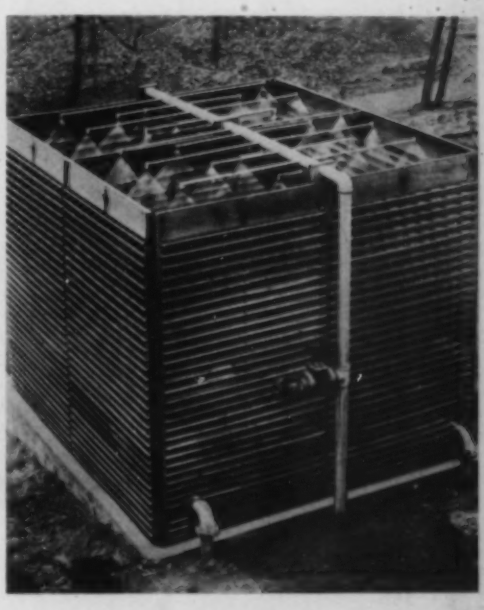
Cooling Towers. The cooling tower was developed for use either indoors or outdoors, and for erection vertically wherever the owner wants it. Although operating on the same principle as the spray pond, cooling towers are much more adaptable to the needs of modern buildings. There are two types — the natural draft and the mechanical draft.

The *natural draft cooling tower* has spray nozzles at the top of it which finely divide the warm water so that it has a chance to evaporate. Since the sides of the tower are open, air from the outdoors enters it and rises by convection up against the downward water spray. The water as it reaches the bottom of the tower is considerably cooler than when it entered the nozzles, and may be recirculated back to the condenser coils.

The natural draft cooling tower is satisfactory for some installations, but it has limitations due to its reliance on atmospheric conditions. It suffers the same basic disadvantage as the spray ponds — on a very hot and humid day, when air-conditioning should be at its best, the natural draft tower is at its worst. The *mechanical draft tower* was developed to overcome this basic deficiency.

The mechanical draft cooling tower can be located anywhere, and is able to cool more water in less time. It uses a fan to blow the air upwards against the falling spray of water. Since the cooling effect is dependent on the amount of air passing the spray, obviously it has a much greater effect than the natural draft tower. Of course it costs

Natural draft tower relies on favorable atmospheric conditions to work efficiently



Courtesy, Marley Co., Inc.

more to operate, since it has a fan which must be in constant operation while the tower is cooling.

Mechanical draft cooling towers either force the air through them from the bottom by *forced draft*, or pull the air up from the top through *induced draft*.

The cooling tower may be used either indoors or outdoors. If used outdoors, of course, only the warm water from the condenser coils need be brought to it, and cool water returned. If used indoors, near the air-conditioning equipment itself, the water piping is still necessary and, along with it, ductwork.

An *air washer* is a type of indoor cooling tower that is designed for horizontal rather than vertical operation. It can be used to cleanse the air necessary for the air-conditioning system, as well as recirculate cooling water. It is particularly useful in existing buildings with fixed ceiling heights when an indoor tower might be too tall. An air washer requires somewhat more floor area, but its usefulness in cleansing the incoming air gives it a big advantage over conventional indoor cooling towers.

Evaporative Condensers. For many installations, the evaporative condenser is the most economical water conservation device. Besides its efficient operation, the evaporative condenser is cheaper in first cost for large built-up air-conditioning systems, since it contains an essential part of the refrigeration unit. It operates on the same principle as the cooling tower and the spray pond. However, instead of bringing the water necessary for condenser cooling to a separate piece of equipment, water for evaporation runs over the condenser coils. (See photo top of page 159.) The hot refrigerant is cooled by evaporation of 5 to 10 per cent of the water. The remainder drops into a pan to be pumped back over the coils again. As in the case of the cooling tower, the small amount of water lost by evaporation has to be made up and added from the fresh water supply.

Most air-conditioning installations of over 15 tons are built up at the site rather than bought in a complete "package." For these systems, the evaporative condenser is particularly popular, as it is the most economical way of purchasing water conservation. Conversely, it is very seldom specified for use with "unit" systems since it duplicates a fundamental part of the air-conditioning system already bought.

Evaporative condensers may be used either indoors or outdoors, but most generally their application has been quite near the system requiring water conservation. Since the water to be evaporated must run over the condenser coils, the evaporative condenser must be located near the rest of the machinery to minimize expensive refrigerant piping and insulation. If located indoors, it generally requires ductwork for the incoming fresh air and outgoing exhaust, (except in one type of small unit which hangs in a window). Also, the outdoor evaporative condenser requires a special weatherproof pump motor which is somewhat more expensive.

In size, evaporative condensers are not limited except by the market which manufacturers try to serve. The market for very large evaporative condensers is necessarily limited, since they should not be placed too far from the remainder of the refrigeration equipment. Air-conditioning engineers generally prefer cooling towers for installations above 50 tons. Similarly, it is not economical to make them for refrigeration machinery of under 5 tons capacity, and few manufacturers try for that market.

One conservation device can take care of several refrigeration machines if it is fitted with special controls to turn the fans on and off, and regulate the flow of water back to the individual units. For instance, three small refrigeration machines of five tons each can be served by a cooling tower that can handle 15 tons. The tower's fan would have to be so connected that it would turn on when any one of the condenser coils had cooling water flowing to it. If the three air-conditioning units all were connected to the same evaporative condenser, the controls would be somewhat more complicated since the refrigerant would have to be controlled from each machine to the evaporative condenser. Since a large part of the installation cost of any of the water conservation devices is ductwork, electrical connections, etc., it is often more economical to connect many units to the same cooling tower or evaporative condenser than to have a separate one for each.

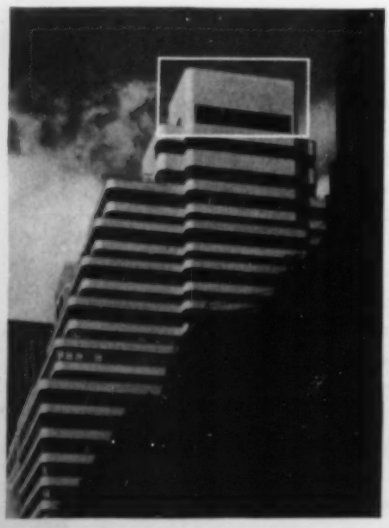
Choosing Right Type

In building design, the architect must bear in mind the different applications of spray ponds, cooling towers, or evaporative condensers.

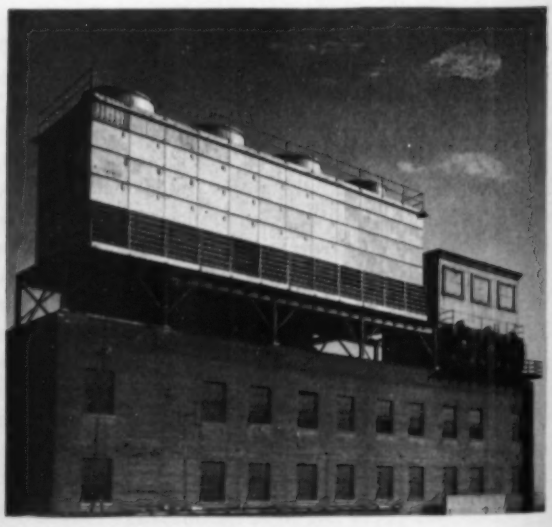
Very tall buildings which are to be completely air-conditioned will most generally require an outdoor cooling tower upon the roof. This is the most satisfactory location, particularly in office buildings where the loss of floor area with indoor towers would represent a sizeable decrease in rentable space. In order to keep the size (and corresponding weight) of the tower to a minimum, big installations require a mechanical draft rather than a natural draft tower on the roof. If the tower is to be located near other buildings' windows,

(*Continued on page 222*)

On new building, cooling tower installed on top is frequently concealed (left). Exposed cooling tower for department store is at right



Courtesy Emery Roth. Photo by Adolph Studly



Courtesy Thermal Products, Inc. Photo by Joseph Molitor

WEATHER'S EFFECT ON DESIGN STUDIED BY TEXAS COLLEGES

The University of Texas tests model in wind tunnel

Texas A. & M. changes roof and walls at full scale

Miracle Pictures

Wind tunnel blows air at 80 mph over model to simulate 5-10 mph breeze. Large arrow indicates prevailing wind direction

TO BE ABLE to design buildings that will best fit their climate, architects need more factual data on performance of structures under different weather conditions. This was manifested at the recent conference, "Weather and the Building Industry," sponsored by the Building Research Advisory Board. In particular, architects wanted performance data on climatic control devices, and information on air movements at low velocity to determine air paths outside and within buildings. Research aimed in this direction is now being conducted at two Texas colleges.

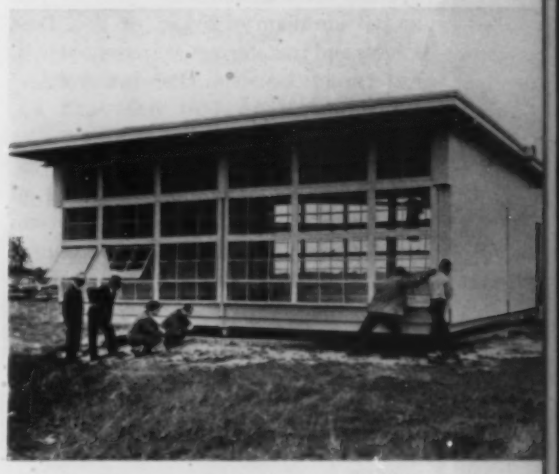
The University of Texas, in conjunction with the All-Ceramics Home Research Program, has made small-scale models of homes being built under the program. The models are being tested in a low-speed wind tunnel by the Dept. of Aeronautical Engineering. The tests are to determine the most satisfactory roof line design and types of window installation for good ventilation. Tests on one model have been completed.

The model was mounted on a 2 by 3 ft board to simulate the ground. Tufts of cotton were fastened to the model with Scotch tape to observe "wind" direction. A probe was used to determine the air pressure at many points about the model. From this probe data, arrows were drawn on the board, and areas with negative pressure were circled (see photo top).

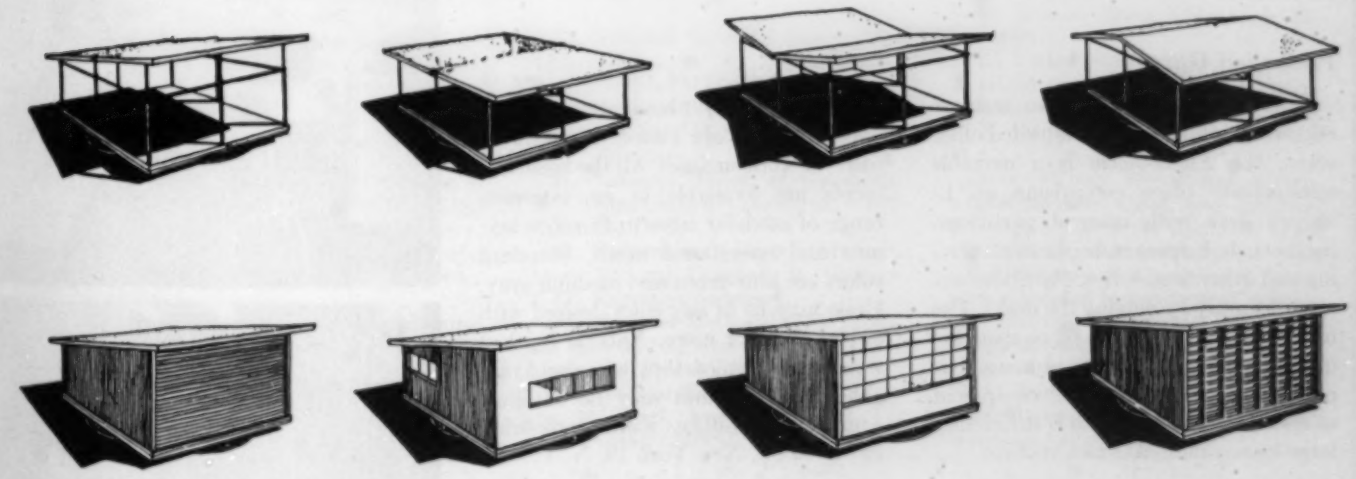
According to investigators, where a low or negative pressure exists as indicated in the test, the air is exhausted from the house by a "pumping" action. High windows under the overhang of the pitched roof would be advantageous for two reasons: (1) they naturally exhaust rising warm air from within the building and (2) being in a negative pressure area they allow pumping action when a breeze exists.

At Texas A. & M. an experimental room has been designed to study the performance of daylighting, natural ventilation and sound with different roof shapes and fenestration patterns. The 30 by 30 ft structure (sized so that findings can be adapted to classrooms) is mounted on wheels which roll on a track to permit rotation to various exposures. The outside walls are non-load-bearing, and interchangeable. The roof shape is altered by means of eight jacks, integral with the columns. Research Architect William W. Caudill is in charge of the project.

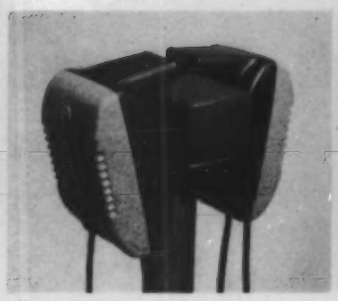
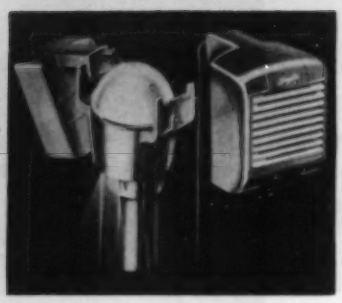
Structure rotates on wheels to test out different orientations. Walls are interchangeable and jacks raise or lower roof

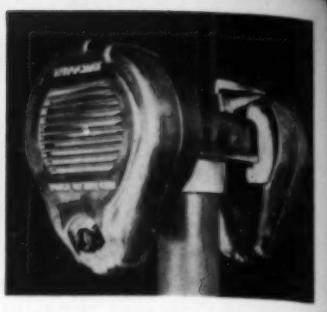


Top row shows how jacks, integral with the eight columns, can alter the roof. Bottom row includes several walls to be studied: (left to right) louvered walls; small, large and grilled windows



Courtesy Thermal Products, Inc.; Photo by Joseph Molitor



PRODUCTS for Better Building

Speakers For Drive-in Theaters

• *Simplex In-A-Car Speakers* provide a choice of speakers, mounted on a coupling unit. The latter has a hanger for two speakers and a terminal for connection with underground wires. A post opening accommodates any post having an outside diam of 2⅜ in. or less. Terminals and transformer are mounted in a waterproof housing. One low voltage lamp provides a post light and an amber dome light.

The deluxe speakers are diecast in lightweight aluminum alloy, finished in gray lacquer. G.E. 4 in. aluminum voice coil speaker units are used. The volume control knob is driven by a spring-loaded slip-clutch to prevent loosening or removing the control. Drain holes are provided to empty condensation from the interior of the case.

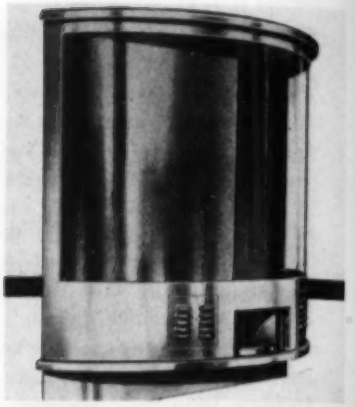
Standard speakers use a 3½ in. Alnico V unit. All models have an auto-window hook as an integral part of the housing. Either straight or coiled cords may be used. National Theater Supply, 92 Gold St., New York 7, N. Y.

• *Ballantyne In-A-Car Speakers* are also available in two price ranges, the standard *MX40 Series*, and the deluxe *Soundmaster Series*. The former has a heavy gage steel case, the latter is of aluminum. Both are finished in baked-on enamel. Speaker cones are said to be completely weather-treated, and the case has water drainage at cone level and at the case bottom. Features include rubberoid covered speaker hangers, extended louvers and double strength back. Coiled or straight cords may be used.

The junction box has a heavy duty matching transformer and enclosed terminal strip. It will fit any pipe from 1½ to 2⅜ in. O.D. with no special adaptors needed. Built-in down lights, Plexiglass ramp marking lights, and illuminated volume control knobs are available. The Ballantyne Co., 1707 Davenport St., Omaha, Neb.

• *RCA Drive-in Speakers* feature cast aluminum speakers and junction boxes, with a special "Starlight" finish on

(*Continued on page 226*)



Top: Speakers for drive-in theaters (left to right) — RCA; Simplex; Ballantyne; Autocrat. Center: Drive-up bank windows —Diebold (top); Mosler-Duplex (bottom). Below: Office desk with integral partitions, shelves and fittings

Packaged Office

Developed by du Pont to increase effective working space in crowded office areas, the *Korda-Room* is a movable semi-private office comprising an L-shaped desk with integral partitions, cabinets, desk drawers, bookcases, shelving and other accessories. Partitions are moved simply by moving the desks. The unit is claimed to reduce office space requirements by 30 per cent or more. The desk is planned to have all equipment at arm's reach. Each room is sufficiently large to accommodate two visitors.

Lower portions of the units are of wood, braced by aluminum channels, upper portions are glazed. Linoleum is used for work surfaces. All the basic elements are available in an extensive range of modular sizes to fit office layouts and operational needs. Standard colors are blue-green and medium gray. Units may be in any color desired with orders of 15 or more. Natural finished wood and formica tops are also available. A special unit may be obtained equipped for drafting. Korda Industries, 20 W. 46 St., New York 19, N. Y.

BIBLIOGRAPHY OF STANDARD CODES AND SPECIFICATIONS: 1

Prepared by William Henry Deacy, A.I.A.

This bibliography was prepared to serve as an aid to architects in the preparation of building specifications. On this page are listed the addresses of trade, Federal and professional organizations which normally are concerned with formulating and issuing standards, codes and manuals, helpful and of value to architects. Titles of officials to be addressed are included. The successive sections are devoted to lists of specifications and codes frequently cited.

A

1. Acoustical Materials Assn., 205 West Monroe St., Chicago, Ill., Secretary.

2. Aluminum Assn., 420 Lexington Ave., New York 17, N. Y., Secretary.

3. Aluminum Window Mfrs. Assn., 209 Cedar Ave., Washington 12, D. C., Secretary.

4. American Boiler & Affiliated Industries, 15 Park Row, New York 7, N. Y., Manager.

5. American Concrete Institute, New Center Bldg., Detroit 2, Mich., Secretary.

6. American Gas Assn., 420 Lexington Ave., New York 17, N. Y., Managing Director.

7. American Home Lighting Institute, 55 West 42nd St., New York 18, N. Y., Secretary.

8. American Institute of Architects, 1741 New York Ave., Washington 6, D. C., Executive Director.

9. American Institute of Steel Construction, 101 Park Ave., New York 17, N. Y., Executive Vice-President.

10. American Iron and Steel Institute, 350 5th Ave., New York 1, N. Y., President.

11. American Society of Heating & Ventilating Engineers, 51 Madison Ave., New York 10, N. Y., Secretary.

12. American Society of Landscape Architects, 9 Park St., Boston 8, Mass., Secretary.

13. American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa., Executive Secretary.

14. American Specifications Institute, 134 North La Salle St., Chicago 2, Ill., Executive Secretary.

15. American Standards Assn., 70 East 45 St., New York 17, N. Y., Secretary.

16. Asbestos Cement Products Assn., 509 Madison Ave., New York 22, N. Y., Manager.

B

17. Building Officials Conference of America, 26 Norman St., Boston 14, Mass., President.

C

18. Copper and Brass Research Assn., 420 Lexington Ave., New York 17, N. Y., Manager.

I

19. Illuminating Engineering Soc., 51 Madison Ave., New York 10, N. Y., Executive Secretary.

20. Indiana Limestone Institute, Bedford, Indiana, Secretary.

21. Institute of Boiler & Radiator Mfrs., 60 East 42 St., New York 17, N. Y., General Manager.

M

22. Marble Institute of America, 108 Foster Ave., Mt. Vernon, N. Y., Managing Director.

23. Metal Lath Mfrs. Assn., Engineers Bldg., Cleveland 14, Ohio, Commissioner.

24. Metal Window Institute, 806 Rowland Rd., Cheltenham, Pa., Executive Secretary.

N

25. National Board of Fire Underwriters, 85 John St., New York 7, N. Y., General Manager.

26. National Bldg. Granite Quarries Assn., 114 East 40 St., New York 16, N. Y., Secretary.

27. National Bureau of Standards, U. S. Department of Commerce, Washington 25, D. C.

28. National Concrete Masonry Assn., 38 South Dearborn St., Chicago 3, Ill., Executive Secretary.

29. National Electrical Mfrs. Assn., 155 East 44 St., New York 17, N. Y., Managing Director.

30. National Elevator Mfg. Industry, 101 Park Ave., New York 17, N. Y., Commissioner.

31. National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

32. National Hardwood Lumber Assn., 59 East Van Buren St., Chicago 5, Ill., Executive Secretary.

33. National Lumber Mfrs. Assn., 1319–18th St., Washington 6, D. C., Executive Vice-President.

34. National Oak Flooring Mfrs. Assn., Sterick Bldg., Memphis 3, Tenn., Secretary.

35. National Roofing Contractors Assn., 315 West Madison St., Chicago, Ill., Secretary.

36. National Woodwork Mfrs. Assn., 332 South Michigan Ave., Chicago 4, Ill., Secretary-Manager.

P

37. Pacific Coast Bldg. Officials Conference, 124 West 4th St., Los Angeles, Cal., Managing Secretary.

38. Portland Cement Assn., 33 West Grand Ave., Chicago 10, Ill., President.

39. Producers Council, 815–15th St., Washington 5, D. C., Executive Secretary.

S

40. Southern Bldg. Codes Congress, Brown-Marx Bldg., Birmingham, Ala., Director.

41. Structural Clay Products Institute, 1756 K Street, Washington 6, D. C., Secretary.

U

42. Underwriters Laboratories, 175 West Jackson Blvd., Chicago 4, Ill., Secretary.

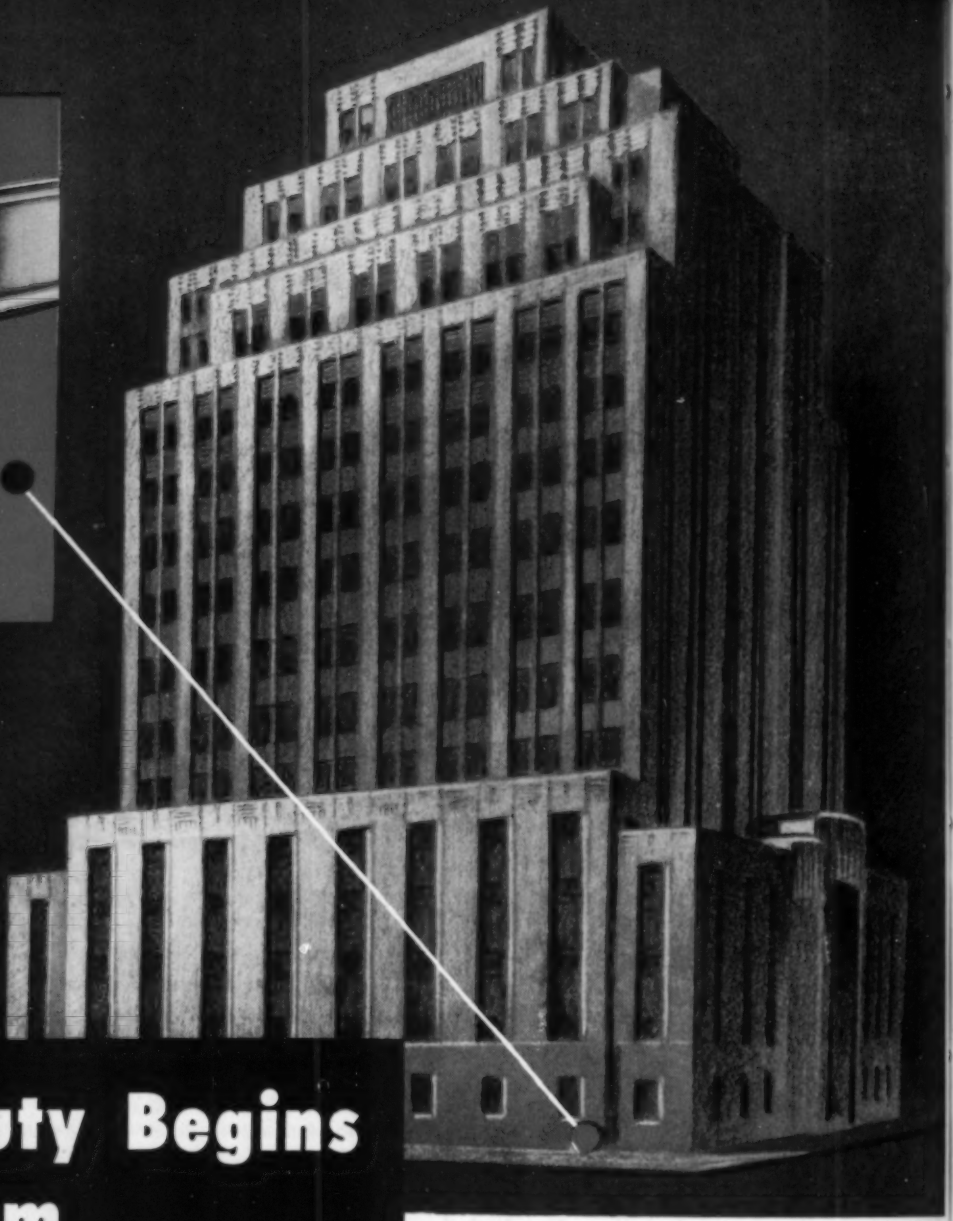
43. United States General Services Administration, Federal Specifications. Address Superintendent of Documents, U. S. Printing Office, Washington 25, D. C.

Note — There are several governmental agencies which issue specifications applicable to the particular types of building and construction with which the agency is concerned. Architects interested in this type of building are usually familiarized with the standards and specifications by the agency employing the architect. The FHA, Joint Army and Navy (JAN) Committee and many others issue such standards and regulations.

TIME-SAVER STANDARDS

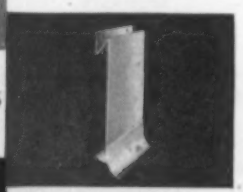
Milcor Metal Base for Modern Interior Beauty

—available in flush-base, projecting-base, adjustable-base, and removable-base types. 4-inch and 6-inch heights, in standard 10-ft. lengths. Made of durable 18-gauge galvanized steel.

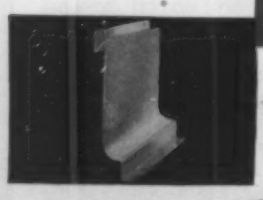


Modern Beauty Begins at the Bottom ...with MILCOR Metal Base

No. 623 Projecting Base



No. 631-R Adjustable Base



No. 601 Flush Base

Interior beauty today calls for functional design. Beauty, yes. But beauty that is efficient, clean, and fire-safe. That's why modern construction everywhere calls for Milcor Metal Base — the sleek and beautiful base trim that ties in to all the other products in the world's most complete line of fireproof building materials. Slots for grouting. With or without expanded metal plaster flanges. Full details in Sweet's. Or write for your free copy of new Milcor Manual. No obligation.

P-333

INLAND STEEL PRODUCTS COMPANY

Formerly Milcor Steel Company

4035 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

Baltimore 24, Md., Buffalo 11, N. Y., Chicago 9, Ill., Cincinnati 25, Ohio, Cleveland 14, Ohio Detroit 2 ,Mich., Kansas City 8, Mo., Los Angeles 23 Calif., New York 22 ,N. Y., Rochester 9, N. Y., St. Louis 10, Mo.

BIBLIOGRAPHY OF STANDARD CODES AND SPECIFICATIONS: 2

Prepared by William Henry Deacy, A.I.A.

Note: ***Bold type numbers in parentheses refer to addresses listed in Part I of this bibliography. Other numbers are code designations for each particular standard or specification.***

BRICK

Amer. Soc. for Testing Materials (13)

Spec. for Concrete Building Brick (C 55)

Spec. for Building Brick (Made from Clay or Shale) (C 62)

Methods of Sampling and Testing Brick (C 67)

Spec. for Sand-Lime Building Brick (C 73)

Spec. for Mortar for Reinforced Brick Masonry (C 161)

Fed. Spec. (43)

Brick; building (common) clay (SS-B-656)

Brick; concrete (SS-B-663)

Brick; paving (SS-B-671a)

CODES

Amer. Iron & Steel Inst. (10)

Building Code Modernization (A series of reference bulletins)

Amer. Standards Assn. (15)

Building Exits Code (A9.1–1949)

Manual of Accident Prevention in Construction (A10.1–1939)

Safety Code for Building Construction (A10.2–1944)

Recommended Practice for Industrial Lighting (A11–1942)

Safety Code for Floor and Wall Openings, Railings and Toe Boards (A12–1932)

Safety Code for Wood Ladders (A14.1–1948)

Practice for School Lighting (A23.1–1948)

Air Gaps in Plumbing Systems (A40.4–1942)

Backflow Preventers in Plumbing Systems (A40.6–1943)

Plumbing Code (A40.7–1949)

Building Code Requirements for Masonry (A41.1–1944)

Building Code Requirements for Light and Ventilation (A53.1–1946)

Administrative Requirements for Building Codes (A55.1–1948)

Building Code Requirements for Structural Steel (A57.1–1943)

Building Code Requirements for Minimum Design Loads in Buildings and other Structures (A58.1–1945)

Building Code Requirements for Reinforced Gypsum Concrete (A59.1–1945)

Building Code Requirements for Signs and Outdoor Display Structures (A60.1–1949)

Building Code Requirements for Steel Joist Construction (A87.1–1947)

Building Regulations for Reinforced Concrete (A89.1–1948)

Code for Mechanical Refrigeration (B 9.1–1950)

Bldg. Officials Conf. of Amer. (17)

Basic Building Code

Nat'l Bd. of Fire Underwriters (25)

National Building Code 1949 Edition

National Building Code (Abbreviated Edition)

Building Code Standards

Nat'l Fire Protection Assn. (31)

National Fire Codes:
Vol. I — Flammable Liquids, Gases, Chemicals and Explosives
Vol. II — Prevention of Dust Explosions
Vol. III — Building Construction and Equipment
Vol. IV — Extinguishing and Alarm Equipment
Vol. V — National Electric Code
Handbook of Fire Protection

Pacific Coast Bldg. Off. Conf. (37)

Uniform Building Code

Uniform Building Code for Small Jurisdictions

Southern Bldg. Codes Congress (40)

Southern Standard Building Code

CONCRETE

Amer. Concrete Institute (5)

Building Code Requirements for Reinforced Concrete (AC1318–47)

Minimum Standard Requirements for Precast Concrete Floor Units (AC1711–46)

Recommended Practice for the Design of Concrete Mixes (AC1613–44)

Specifications for Cast Stone (AC1704–44)

Recommended Practice for Measuring, Mixing and Placing Concrete (AC1614–42)

Recommended Practice for the Use of Metal Supports for Reinforcement (AC1319–42)

Manual of Standard Practice for Detailing Reinforced Concrete Structures (Proposed)

Amer. Soc. for Test. Materials (13)

Spec. for Natural Cement (C 10)

Spec. for Concrete Sewer Pipe (C 14)

Method of Test for Voids in Aggregate for Concrete (C 30)

Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field (C 31)

Spec. for Concrete Aggregates (C 33)

Method of Test for Compressive Strength of Molded Concrete Cylinders (C 39)

Method of Test for Organic Impurities in Sands for Concrete (C 40)

Method of Securing, Preparing, and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths (C 42)

Def. of the Term Sand and Def. of the Term Aggregate (C 58)

Spec. for Reinforced Concrete Sewer Pipe (C 75)

Method of Test for Cement Content of Hardened Portland-Cement Concrete (C 85)

Method of Test for Measuring Mortar-Making Properties of Fine Aggregate (C 87)

Spec. for Hollow Load-Bearing Concrete Masonry Units (C 90)

Spec. for Masonry Cement (C 91)

Spec. for Ready-Mixed Concrete (C 94)

Method of Test for Amount of Material Finer than No. 200 Sieve in Aggregates (C 117)

Spec. for Hollow Non-Load-Bearing Concrete Masonry Units (C 129)

Spec. for Lightweight Aggregates for Concrete (C 130)

Method of Test for Sieve Analysis of Fine and Coarse Aggregates (C 136)

Method of Test for Weight per Cubic Foot, Yield, and Air Content (Gravimetric) of Concrete (C 138)

Methods of Sampling and Testing Concrete Masonry Units (C 140)

Method of Slump Test for Consistency of Portland-Cement Concrete (C 143)

Spec. for Aggregate for Masonry Mortar (C 144)

Spec. for Solid Load-Bearing Concrete Masonry Units (C 145)

Spec. for Portland Cement (C 150)

Spec. for Waterproof Paper for Curing Concrete (C 171)

Methods of Sampling Hydraulic Cement (C 183)

Method of Test for Air Content of Portland-Cement Mortar (C 185)

Method of Test for Tensile Strength of Hydraulic-Cement Mortars (C 190)

Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory (C 192)

Amer. Standards Assn. (15)

Forms for Concrete Joist Construction Floors (A48–1932)

Nat'l Bureau of Standards (27)

Concrete Building Units (32–38 S.P.R.)

Fed. Spec. (43)

Bars, reinforcement (for) concrete (QQ-B-71a)

Cements; Portland (SS-C-192)

Concrete units; masonry, hollow (SS-C-614)

Roofing Slabs; concrete precast (SS-R-531)

DRAFTING & MODULAR SYSTEM

Amer. Inst. of Architects (8)

Complete information on the use of modular coordinated units and construction. Also how the architect may apply the modular system in his office.

Amer. Standards Assn. (15)

Basis for the Coordination of Dimensions of Building Materials and Equipment (A62.1–1945)

Basis for the Coordination of Masonry (A62.2–1945)

Sizes of Clay and Concrete Modular Masonry Units (A62.3–1946)

Sizes of Clay Flue Linings (A62.4–1947)

Producers Council (39)

Complete information on Dimensional Coordination — the Modular System.

Light on an old banking problem

BRIGHT and friendly is the interior of this bank since it was given new life with properly designed lighting. Though the soaring ceiling presented a problem, Litecontrol engineers solved it with incandescent lens boxes. These fixtures blend smoothly into the architectural design — give a narrow concentrated beam that easily bridges the gap between ceiling and floor. Certainly an excellent solution to the old problem of relighting older style buildings.

Shown is the Merchants National Bank, Salem, Massachusetts

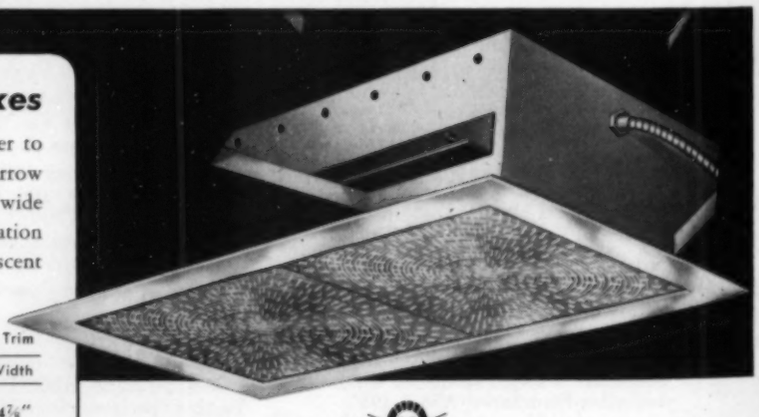
Architect, W. H. Jones & Son, Melrose, Mass.; Engineer, John R. McVey, Salem Electric Lighting Company; Electrical Contractor, Wilson & Robinson; Distributor, DesRoberts Electric Supply Company. Ceiling height: 24½ feet. Fixtures: 24, 2 gang recessed lens boxes for top service with Holophane #1765 lens-reflector combination. Designed for 300 watt incandescent lamps to provide an average of 35 footcandles in service in work areas.

. . . with Litecontrol Lens Boxes

These Litecontrol flush lens boxes can be the answer to many of your lighting problems. Use them with "narrow beam" lens and reflector combinations or with "wide beam" combinations. Be sure and write for information on the many other types of fluorescent and incandescent fixtures manufactured by Litecontrol.

Catalog Number	Lamp Wattage	Roughing Box			Exposed Trim	
		Length	Width	Depth	Length	Width
12F-V30-2	2-150†-300	25"	12⅞"	11¼"	27"	14⅞"
*12F-V30S-2	2-150†-300	25"	12⅞"	11¼"	27"	14⅞"
12F-V30-3	3-150†-300	37"	12⅞"	11¼"	39"	14⅞"
*12F-V30S-3	3-150†-300	37"	12⅞"	11¼"	39"	14⅞"
12F-V30-4SQ	4-150†-300	26"	26"	12"	28"	28"
*12F-V30S-4SQ	4-150†-300	26"	26"	12"	28"	28"

*Supplied with Holophane Square Reflector for wide beam spread.
†Use ⅞" Socket Extension. Note all these boxes available with top service for relamping from above.



LITECONTROL
Fixtures
KEEP UPKEEP DOWN
LITECONTROL CORPORATION
36 PLEASANT STREET, WATERTOWN 72, MASSACHUSETTS

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS

BIBLIOGRAPHY OF STANDARD CODES AND SPECIFICATIONS: 3

Prepared by William Henry Deacy, A.I.A.

ELEVATORS

Nat'l Elevator Mfg. Ind. (30)

Engineering Standards Data Sheets No. 1, 1A, 1B, 2, 2A, 2B, 2C, 2D, 2E, 3, 3A, 3B, 3C, 3D, 3E

GLASS

Fed. Spec. (43)

Glass, flat glazing (DD-G-476)

HARDWARE

Nat'l Bureau of Standards (27)

Builders' Hardware (18 S.P.R.)

Builders' Hardware (non-template) (22–40 CS)

Builders' Template Hardware (9–33 CS)

Fed. Spec. (43)

Hardware; builders'; locks and door trim (FF-H-106a)

HEATING

Nat'l Bureau of Standards (27)

Air Conditioning and Warm Air Heating; Pipes, Ducts and Fittings (207–49 S.P.R.)

INSULATION

Amer. Soc. for Testing Materials (13)

Spec. for Mineral Wool Thermal Insulating Cement (C 195)

Spec. for Structural Insulating Board Made from Vegetable Fibers (C 208)

Fed. Spec. (43)

Acoustic Material (for) plastic application. (O-A-111)

Cork; compressed (corkboard) (for thermal insulation) (HH-C-561b)

Cork; granulated, insulating (HH-C-571a)

Fiber-board; insulating (LLL-F-321b)

Insulation, building, mineral wool, batts, loose fill and granular fill. (HH-I-521c)

Insulation; cotton, batts (HH-I-528)

Insulation; glass, cellular, block (HH-I-551)

Insulation; laminated asbestos (HH-I-561b)

Insulation, (red-wood bark, shredded) (LLL-I-533)

METAL (NON-FERROUS)

Amer. Soc. for Testing (13)

Spec. for Red Brass Pipe, Standard sizes (b43)

Spec. for Seamless Copper Tubes (B75)

Spec. for Copper Water Tube (B88)

Spec. for Miscellaneous Brass Tubes (B135)

Spec. for Copper Sheet, Strip and Plate (B152)

Fed. Spec. (43)

Aluminum Alloy; plates, sheets and strips (QQ-A-327)

Bronze; castings (QQ-B-691b)

PAINTS & FINISHES

Fed. Spec. (43)

Enamel; gloss, synthetic (for exterior and interior) (TT-E-489)

Enamel; gloss, synthetic (for metal and wood hospital furniture) (TT-E-491)

Paint; alkyd resin-emulsion, exterior, paste, tints and white (TT-P-18)

Paint; blue-lead-base, basic sulphate, linseed oil, ready mixed (TT-P-20)

Paint; cement water, powder, white and tints (for interior and exterior) (TT-P-21)

Paint; cold water, exterior, powder (with mixing liquid) (TT-P-22)

Paint; cold water, interior, light tints and white (TT-P-24)

Paint; concrete and masonry, egg-shell finish, ready mixed, white and tints (TT-P-24)

Paint; oil, exterior, ready mixed, light tints and white (TT-P-40)

Paint, oil, interior flat, wall, tints and white (TT-P-51b)

Stain; opaque, wood, exterior, oil (TT-S-706)

Stain; wood, interior, non-bleeding (TT-S-711)

PLASTER & LATH

Amer. Soc. for Test. Materials (13)

Spec. for Quicklime for Structural Purposes (C 5)

Spec. for Normal Finishing Hydrated Lime (C 6)

Def. of Terms Relating to Gypsum (C 11)

Spec. for Gypsum (C 11)

Methods of Testing Gypsum and Gypsum Products (C 26)

Spec. for Gypsum Plasters (C 28)

Spec. for Sand for Plaster (C 35)

Spec. for Gypsum Lath (C 37)

Methods of Sampling, Inspection, Packing, and Marking of Quicklime and Lime Products (C 50)

Spec. for Keene's Cement (C 61)

Spec. for Gypsum Sheathing Board (C 79)

Test for Compressive Strength of Hydraulic-Cement Mortars (C 109)

Methods of Physical Testing of Quicklime and Hydrated Lime (C 110)

Spec. for Hydraulic Hydrated Lime for Structural Purposes (C 141)

Spec. for Special Finishing Hydrated Lime (C 206)

Amer. Standards Assn. (15)

Specifications for Gypsum Plastering, including Requirements for Lathing and Furring (A42.1-1946)

Spec. for Portland Cement Stucco (A42.2–1946)

Spec. for Portland Cement Plastering (A42.3–1946)

Fed. Spec. (43)

Lime; hydrated (for) structural purposes (SS-L-351)

Plaster, gypsum (SS-P-402)

Quicklime; (for) structural purposes (SS-Q-351)

PLUMBING

Nat'l Bureau of Standards (27)

Vitreous Glazed Plumbing Fixtures (111–43 CS)

Fed. Spec. (43)

Plumbing fixtures (for) land use (WW-P-541a)

Plumbing fixtures (formed metal) (WW-P-542)

ROOFING, ASPHALT

Amer. Soc. for Testing Materials (13)

Methods of Testing Felted and Woven Fabrics Saturated with Bituminous Substances for Use in Waterproofing and Roofing (D 146)

Spec. for Asphalt Roofing Surfaced with Powdered Talc or Mica (D 224)

Spec. for Asphalt Shingles Surfaced with Coarse Mineral Granules (D 225)

Spec. for Asphalt-Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs (D*226)

Spec. for Coal-Tar Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs (D 227)

Methods of Testing Asphalt Roll Roofing, Cap Sheets, and Shingles (D 228)

Spec. for Asphalt Roofing Surfaced with Coarse Mineral Granules (D 249)

Spec. for Asphalt-Saturated Asbestos Felts for Use in Waterproofing and in Constructing Built-Up Roofs (D 250)

Method of Test for Abrasion of Graded Coarse Aggregate by Use of the Deval Machine (D 289)

Spec. for Asphalt for Use in Constructing Built-Up Roof Coverings (D 312)

Spec. for Wide Selvage Asphalt Roofing Surfaced with Coarse Mineral Granules (D 371)

Spec. for Coal-Tar Pitch for Roofing, Damp-proofing, and Waterproofing (D 450)

Methods of Testing Wool Felt (D 461)

Rec. Practice for Accelerated Weathering Test of Bituminous Materials (D 529)

Spec. for Asphalt-Saturated and Coated Asbestos Felts for Use in Constructing Built-Up Roofs (D 655)

Fed. Spec. (43)

Asphalt (for) built-up roofing, waterproofing and damp-proofing (SS-A-666)

Felt; coal-tar-saturated (for) roofing and waterproofing (HH-F-201)

Roofing; asphalt and asbestos prepared, mineral surfaced (SS-R-511)

Roofing, prepared; asphalt, smooth surfaced (SS-R-501a)

SIDING

Amer. Soc. for Testing Materials (13)

Spec. for Asphalt Siding Surfaced with Mineral Granules (D 699)

Roofing and siding; corrugated, asbestos cement (SS-R-524)

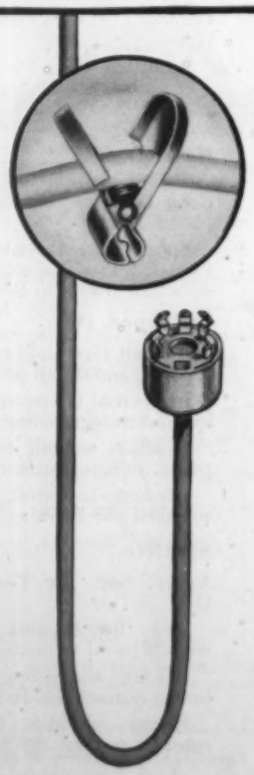
Siding (shingles and clapboards) asbestos cement (SS-S-346a)

TIME-SAVER STANDARDS Architectural Engineering

2 famous names now join in producing world's finest LOUD-SPEAKING

PATIENT PRESSES CALL BUTTON . . . shown above . . . and signal flashes on Nurse's Master Station. Only patient can initiate conversation—hence greater privacy is assured.

INGENIOUS CLAMP shown below, an exclusive feature of Nurses' Call Button. Grips bedside table or bedding (without tearing)...ends slipshod "safety-pin technique"...keeps call button within reach always!



GREATER CONVENIENCE...EFFICIENCY...PRIVACY among many features of this truly modern hospital communication system!

Mark this as a new day in hospital administration and patient welfare!

Who else but EDWARDS, with its 78-years' experience in precision-engineered signal equipment—and STROMBERG-CARLSON, with its acknowledged leadership in audio products—who else but these two great names could produce a NURSES' CALL SYSTEM with these outstanding advantages:

Greater Convenience: A flip of the switch at the Nurse's Master Station enables patient to converse directly with nurse in attendance.

Greater Efficiency: No more tiring, time-wasting trips down the corridors to learn patients' needs—and trips all the way back to fulfill them!

Greater Privacy: *Only patient can initiate conversation* . . . so patient cannot be disturbed by unnecessary calls. And no other patient rooms can listen in!

What's more—the new EDWARDS-

NURSES' CALL SYSTEMS

AT THE MASTER STATION, nurse learns patient's needs without wasting steps and time. Calls can be sorted between those requiring her attention and those that can be handled by aide or orderly.

Telephone handset assures privacy at the station. Highly sensitive wall speaker at bedside transmits slightest sound from room after patient pushes call button.

STROMBERG-CARLSON Loud-Speaking Nurses' Call System has *already* been hospital-tested, proven in use! It gives reliable, trouble-free performance... operates with standard accessories... and is ready to take its place along with the many EDWARDS products now increasing hospital efficiency, now guarding lives and property in the country's finest hospitals.

For complete data, write:

EDWARDS COMPANY, INC., Norwalk, Conn.
In Canada: Edwards of Canada, Ltd.

EDWARDS
...for signaling

STROMBERG-CARLSON
...for sound

MANUFACTURERS' LITERATURE

Theater Developments

Theatre Catalog, 8th Annual Edition, 1949–1950. This big volume is replete with information on planning theatres of all types, whether roofed or drive-in. The following items are included among the numerous chapters: theatre design, construction and materials, front and lobby data, auditorium and stage data, drive-in theatres, projection and sound, air conditioning and heating, supplies and new products, confection vending, television and 16 mm film, practices and maintenance, and advertising and promotion. The catalog is well illustrated and indexed. 544 pp., illus. Price $5.00. Jay Emanuel Publications, Inc., 1225 Vine St., Philadelphia 7, Pa.

Metal Doors

V M P Architects' and Builders' Manual. Describes line of insulated hollow metal doors, pre-assembled steel frames, fire-rated door and frame combinations, and sliding doors and frames. Construction features, specifications, types and sizes, dimensions and details are included for each item. Notes and drawings show application to various wall constructions. The manual is available on written request on Company letterhead. 38 pp., illus. Virginia Metal Products Corp., Product Information Dept., 60 Hudson St., New York, N. Y.*

Stuccoing and Plastering

The Keystone System — Stucco Application, Plaster Reinforcing and Other Reinforcing Applications. Booklet gives information for the application of siding and surfacing materials where open mesh steel reinforcing is required. Methods of remodeling existing structures are stressed. Details and illustrations are given for applying the reinforcing on various types of construction, for mixing and applying stucco and plaster, and for coloring and finishing. Charts give amounts of cement, stucco and sand required for specified areas. 44 pp., illus. Keystone Steel & Wire Co., Peoria 7, Ill.

Moving Stairways

Peelle Motorstairs. Folder presents the features of the stairs and lists a number of installations in the U. S. The operating mechanism is carefully explained in a series of photographs and diagrams. Planning data is included on sizes, weights, opening requirements and specifications. Notes are given on capacity and speed, and on installation. 8 pp., illus. The Peelle Co., Peelle Motorstair Div., 47 Stewart Ave., Brooklyn 6, N. Y.*

Wood Frame Apartments

Prize Winning Designs: Eight Family Garden-Type Apartments of Wood Frame Construction. Booklet presents the results of an architectural competition sponsored by the Timber Engineering Co., conducted with the approval of the Committee on Competitions of the A.I.A. Eight of the Winning projects are illustrated, with plans, elevations, renderings and details. The problem requirements and the jury report are included Notes are also given on Teco timber connectors and framing anchors. 22 pp., illus. Timber Engineering Co., 1319 18th St., N. W., Washington 6, D. C.

Abrasive Steel Floor Plate

A. W. Algrip, The Only Abrasive Rolled Steel Floor Plate. Booklet describes features and properties of the floor plate. Fabrication data are included on the cutting, installing and forming of the material. Applications are noted and illustrated. Tables are included for sizes, weights and allowable uniform loads. 8 pp., illus. Allan Wood Steel Co., Conshohocken, Pa.

Metal Letters

Spanjer Metal Letters (Catalog M-50). Booklet gives information about styles, sizes, finishes and prices of the letters. Each type is illustrated with photographs and drawings. Charts give the height, width, thickness and depth of stroke of each, and corresponding prices for various finishes available. Detailed installation instructions and fastening methods are also included, along with specifications. 16 pp., illus. Spanjer Brothers, Inc., 1158 N. Howe St., Chicago, Ill.

Laminated Panels

New Kaylo Laminated Panels With Cement-Asbestos Facing. Brochure gives fabrication details and features of the panels. Installation and applications are covered with text and photos. Technical data include strength, impact resistance, fire resistance, insulation value, sound and vapor transmission and screw-holding power. Many details are given for use with wood and steel framing, and in connection with glass block. 12 pp., illus. Kaylo Div., Owens-Illinois Glass Co., Toledo 1, Ohio.*

Fabrics and Wallpaper

Laverne Originals. Booklet covers a collection of out of the ordinary fabrics and wallpapers designed by Alvin Lustig, Ray Komai, Zahara Schatz, Juliet and Gyorgy Kepes, and Alexander Calder. Each is illustrated, and has notes on uses, and the sizes and colors available. Some furniture and ceramics are included, designed by William Katavolos, Douglas Kelley and Ross Littell. 26 pp., illus. Laverne Originals, 225 Fifth Ave., New York 10, N. Y.

Masonry Anchoring Devices

U.S.E. The Complete Line of Masonry Anchoring Devices and Allied Products. Booklet gives illustrations, details, size tables and specifications for the following items: expansion shields, screw anchors, nail anchors, wire rope clips and thimbles, toggle bolts, turnbuckles, pipe clamps and bent wire eye bolts. A section is also included on drills, chisels

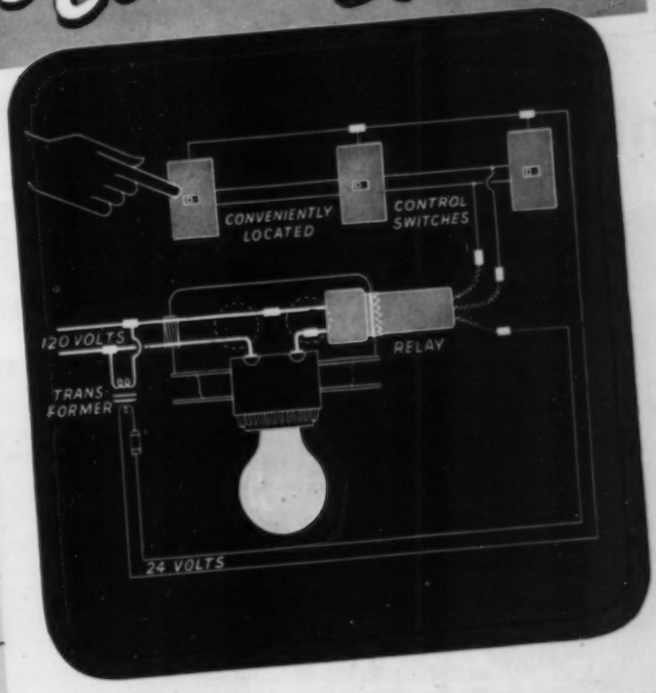
(*Continued on page 244*)

**Other product information in Sweet's File, 1950.*

Light the path ahead

WITH SQUARE D's NEW Low Voltage Control System

use this
Remote Control Relay System
instead of conventional switching
for greater
CONVENIENCE · SAFETY · COMFORT
. . . at very reasonable cost



LIGHTS OFF IN GARAGE
AND ON IN KITCHEN

LIGHTS OFF BEHIND
AND ON AHEAD

LIGHTS ON FOR A LOOK
THEN OFF ALL OVER

• The above sketch shows how remote control relays are installed in knockouts of outlet boxes. The relays are controlled from any number of conveniently located switches operating on a 24 volt system. Only the load circuit wiring is at 120 volts.

One relay can be operated by several control switches, or several relays can be operated from one or more locations, using master switches.

Write **for Bulletin No. 1008, which gives details of this simple, low-cost way to adequate switching.**

Square D Company,
6060 Rivard Street, Detroit 11, Michigan

SQUARE D COMPANY

DETROIT · MILWAUKEE · LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

only Sealuxe BROWNE "Folding-Flue" Windows offer 100% controllable draft-free ventilation

When opened slightly the SEALUXE-BROWNE Window makes a vertical flue. Fresh air comes in at bottom and foul air goes out at the top. No drafts. No wind-blown rain.

See our catalog in Sweet's Architectural file.

eliminates "flying" window washer
Both sides can be safely cleaned from the inside by a maid or porter.

lasts indefinitely
No metal-to-masonry contact. Resists tarnish, rust and corrosion.

long, trouble-free life
Folds at finger-tip pressure. Stays put regardless of wind pressure.

shuts out weather and traffic noises
Closes to a force fit against resilient wool felt weather-stripping.

more light . . . greater beauty
Streamlined to admit more light; set off any architectural treatment.

design flexibility
Choice of standard or custom in aluminum, stainless steel or bronze. With or without muntins; reversible mullions for any width partition; inside screens; crank operators; remote control operators; with or without stool, sills. Models include: Monumental, Residential, Underwriter-approved and escape-proof Psychiatric "windows without bars."

OTHER SEALUXE PRODUCTS

WINDOWS—Picture, Store Front, Commercial and Monumental Casement, Thermo (insulated) • SOLAR CONTROLS—Fins, Canopies, Shades, Louvres • BUILDING ACCESSORIES—Pilasters, Spandrels, Fascias, Wall Panels, Trim • ENTRANCE ACCESSORIES—Building Directories, etc. • DOOR ACCESSORIES • CROWD CONTROL EQUIPMENT. For more information you are invited to clip and mail the coupon at right.

SEALUXE-Engineered Products are Miracles in Metals!

MEMBER Producers Council

Please send me more information about SEALUXE—Engineered Products.

NAME

ADDRESS

FIRM

J. P. TRAVIS
President

Universal CORPORATION
6710 DENTON DRIVE
DALLAS 9, TEXAS

DISTRICT SALES OFFICES, AGENTS AND DISTRIBUTORS IN ALL ARCHITECTURAL CENTERS . . .

THE RECORD REPORTS

WASHINGTON

(*Continued from page 24*)

At the discretion of the housing administrator, this figure could climb to 40 times such value.

A feature of the new legislation is the attempt to raise the federal loan fund for prefabricated housing and large-scale modernized site construction by $50 million. At this writing, the prefab loan program still remained with Reconstruction Finance Corporation. There were strong indications, however, it would be transferred under a Presidential reorganization plan to the housing agency.

Actually, there is little of the original prefabricated loan program left in total volume of loan authorizations. The addition of $50 million — proposed for the new bill — would double the original amount provided by Congress to stimulate the production and sale of factory-made housing and speed up adoption of modern site fabricating methods. RFC officials say less than $10 million remains in the original program. The addition of another $50 million would give this lagging scheme some impetus. It would come at a time when all phases of the construction industry are stressing the need for production of housing of moderate cost. Most of the prefabricated units coming from the factories are in the medium or low cost brackets.

RFC's powers for loans to stimulate prefab output first came under the Veterans' Emergency Housing Act of 1946. Most of the early loans went for working capital; strictly for production. Later the plan was altered to provide money for distribution as well. This seems to be the greatest need in the prefab field today — money for financing the sale and erection of ready-made houses after they leave the factory site.

The Administration favors a vigorous program of this type. In the background of White House opinion is an awareness of possible emergency need for housing that can be erected quickly and that is more or less portable.

President Truman, in submitting his reorganization plan for prefab loans, said development of an efficient prefabricated housing industry is an essential part of the total housing program. It requires integration with the major housing activities of government. He

(*Continued on page 176*)

4-Square Special S2E Joists

KILN-DRIED FOR STABILITY...SIZED FOR STRENGTH

People who buy homes are not only interested in design and floor plan, but they also have a consuming curiosity about construction. "Is this going to be a well-built house?" they ask.

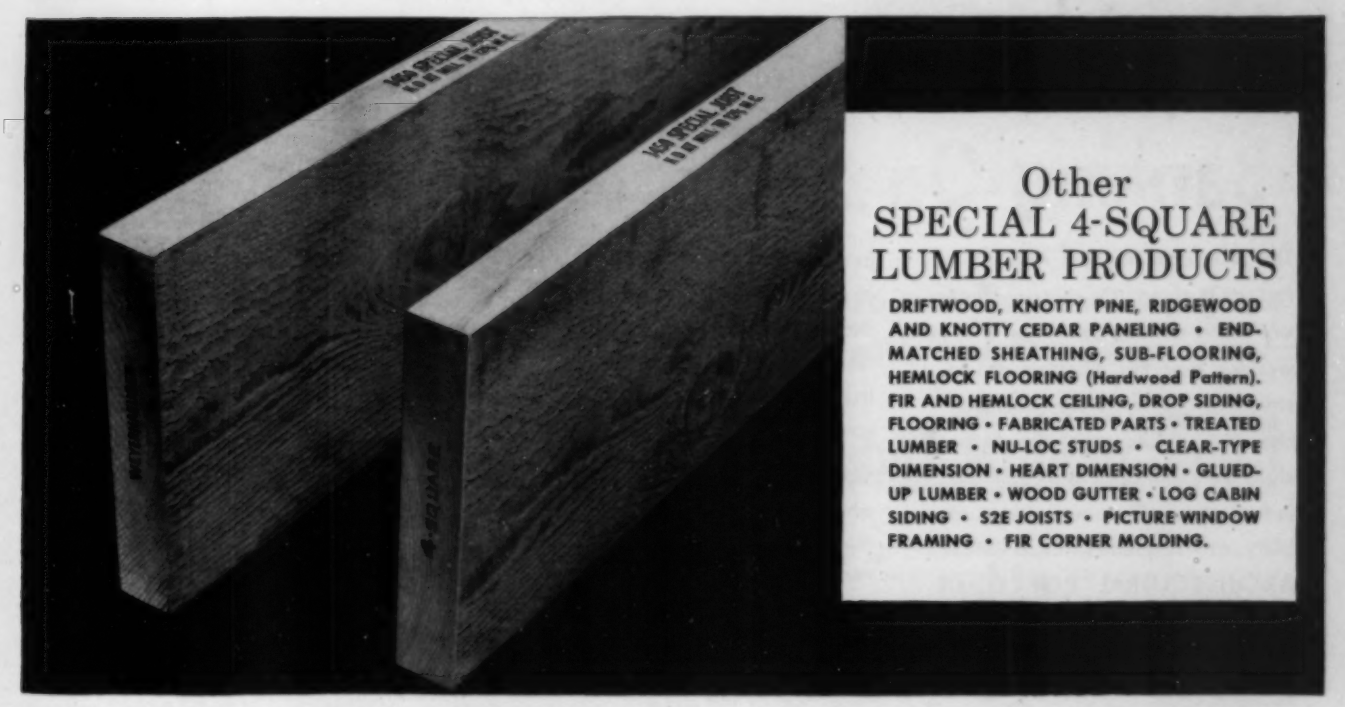
When you explain the structural values, the low upkeep and long life you have incorporated in your design, tell them about Weyerhaeuser 4-Square S2E Joists.

Joists must not only support loads over spans . . . they must also impart stability and stiffness to a structure. They must support loads without movement.

Specially kiln-dried to a 12% moisture content to avoid shrinkage after installation, Weyerhaeuser 4-Square S2E Joists prevent cracks, binding of doors and windows, separation of interior trim, floor settling and squeaking.

Specially sawn, after drying, to a thickness of 1-13/16" and surfaced on two edges, S2E Joists will support over 10% more load than S4S joists surfaced to 1⅝" thickness.

Architects who specialize in the design of homes and small structures find in Weyerhaeuser 4-Square S2E Joists the strong, stable, load bearing members they need for sound construction.



Other
SPECIAL 4-SQUARE
LUMBER PRODUCTS

DRIFTWOOD, KNOTTY PINE, RIDGEWOOD AND KNOTTY CEDAR PANELING • END-MATCHED SHEATHING, SUB-FLOORING, HEMLOCK FLOORING (Hardwood Pattern). FIR AND HEMLOCK CEILING, DROP SIDING, FLOORING • FABRICATED PARTS • TREATED LUMBER • NU-LOC STUDS • CLEAR-TYPE DIMENSION • HEART DIMENSION • GLUED-UP LUMBER • WOOD GUTTER • LOG CABIN SIDING • S2E JOISTS • PICTURE WINDOW FRAMING • FIR CORNER MOLDING.

Design for
COMFORT, BEAUTY
and ECONOMY
with
SPECIAL 4-SQUARE
LUMBER PRODUCTS

Weyerhaeuser 4-Square

LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY
ST. PAUL 1, MINNESOTA

Photographs by Dearborn-Massar

In the University National Bank, Seattle, Washington, the architects selected SEAPORCEL ARCHITECTURAL PORCELAIN ENAMEL for the coping and interior and exterior walls. Smith, Carroll and Johanson were the architects, Henrik Valle Company, Inc., the contractors.

Banking On Seaporcel

The American Bankers Association reports that ten new drive-in banks are being put into operation every working day. For this type of construction—as for stores, commercial and public structures (especially for spandrels and mullions), in fact wherever beauty and durability are requisites—SEAPORCEL ARCHITECTURAL PORCELAIN ENAMEL means strength, economy in cost, and the attractiveness of fadeless color.

Exteriors of SEAPORCEL produce a complete range of architectural design; interiors of SEAPORCEL result in the environment that attracts customers and pleases personnel.

SEAPORCEL architectural parts, which include a full range of shapes, are obtainable in such versatile surface textures as "terra cotta," "limestone," "granite," in semi-matte, matte or glass finishes in any color or shade with the exception of the metallic.

Write today for catalog showing applications and current jobs.

SEAPORCEL METALS, INC.

Formerly Porcelain Metals, Inc.

28-02 Borden Ave., Long Island City 1, N. Y.

Complete A. F. of L.-Metal Fabricating & Enameling Shop

West Coast Representative: McFarland & Co., 1206 West 7th St., Long Beach 13, Calif.

SEE OUR CATALOG IN SWEET'S

Seaporcel

Member Porcelain Enamel Institute, Inc.

THE RECORD REPORTS

WASHINGTON

(*Continued from page 174*)

argued that the loan functions are complementary to other HHFA activities. For one thing, the FHA insures loans for prefab manufacturers as well as insuring mortgages for the mass produced houses when they are erected and sold.

Said the Truman message: "Thus, the successful operation of the program of loans for the manufacture of prefabricated houses depends to a large extent on the ready availability of mortgage insurance by the FHA as the primary means of assuring permanent financing for their sale. . . .

"The HHFA, in cooperation with the National Security Resources Board, should be in a position to encourage peacetime emergency requirements of the future."

Meanwhile, the private prefab industry was doing far more than just hanging on in the present market. Prefabricated Home Manufacturers Institute reported that all shipments of prefabricated units during the first five months of 1950 numbered more than 20,000. This was an increase of more than 220 per cent over the same 1949 period. The 6000 units shipped in May alone represented a 50 per cent increase over April and a 235 per cent increase over May of a year ago. The Institute is confident the industry will make a new and proud record for itself when all 1950 activity is summarized.

Shorts

• The picture with respect to National Labor Relations Board jurisdiction over the construction industry continued to be almost as confusing as ever. There were a number of "clarifying" releases from NLRB headquarters, including statements by General Counsel Denham. But trade opinion seemed to agree that these for the most part tended to further cloud the issues. One thing was certain — the rift between NLRB members and their general counsel was wide as ever. And this disagreement stems in no small measure from the widely divergent views concerning building industry cases.

• Some of the bigger contracting firms were beginning to show postwar profits, a new experience since 1945. Thompson-

(*Continued on page 178*)

Patterns.
100 Sun Dawn, 703 Coal Frost

. . . start the room idea with easy-to-clean

Fremont Rubber Tile!

Here's a "rough customer" to consider when you plan den flooring. Start the room scheme right with smart, durable Fremont Rubber Tile. Your choice of seventeen fade-resistant colors makes color planning easy. Even under hard wear Fremont Rubber Tile stays sparkling new for the colors go clear through. Formal or informal, make your next beautiful den beginning with Fremont Rubber Tile. It's smart from the start!

fremont rubber company

309 McPherson Highway, FREMONT, OHIO

MAKERS OF: Rubber Tile • Rubber Tile Adhesive • Vinyl Plastic Cove Base • Rubber Rugs • Sponge Rubber Rug Cushion Plastics • Foam Rubber

Please send me without obligation a copy of your full-color brochure, "Fremont Opens the Door".

NAME_____

FIRM NAME_____

STREET ADDRESS_____

CITY_____ STATE_____

For Beauty — Stability — Permanence

Design with PERMACLAD STAINLESS CLAD STEEL

This New Material Cuts Costs — Adds Corrosion Resisting Beauty

PERMACLAD STAINLESS CLAD STEEL is an entirely new and different product. It combines the surface characteristics of stainless steel with the easy forming qualities of mild steel, providing corrosion resistance at decreased costs.

The stainless layer is usually 10% or 20% of the total thickness but the percentage of cladding can be increased or decreased if required.

PERMACLAD is noted for its eye appeal and corrosion resistance. This is why more and more architects are specifying PERMACLAD for modern building facades, doors, panels, shower stalls and interiors.

PERMACLAD is economical, too. It costs less than other corrosion resistant materials but it provides all the important advantages. Reduction of weight is possible through the use of A.W. Dynalloy, low alloy, high strength steel as a backing for PERMACLAD in place of ordinary mild carbon steel.

For additional information and a free copy of our 8-page technical data folder write to Alan Wood Steel Company, Conshohocken, Pa. Ask for Folder P-20.

The Finer The Finish, The Finer The Product Use PERMACLAD

PERMACLAD

STAINLESS CLAD STEEL

A Product of

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Other Products: A.W. ALGRIP ABRASIVE Floor Plate • A.W. SUPER-DIAMOND Billets • Plates • Sheets • Strip • (Alloy and Special Grades)

THE RECORD REPORTS

WASHINGTON

(*Continued from page 176*)

Starrett Co., Inc., reported net income of $199,239 for the fiscal year ended April 30. This operating profit was the first shown by the concern in six years.

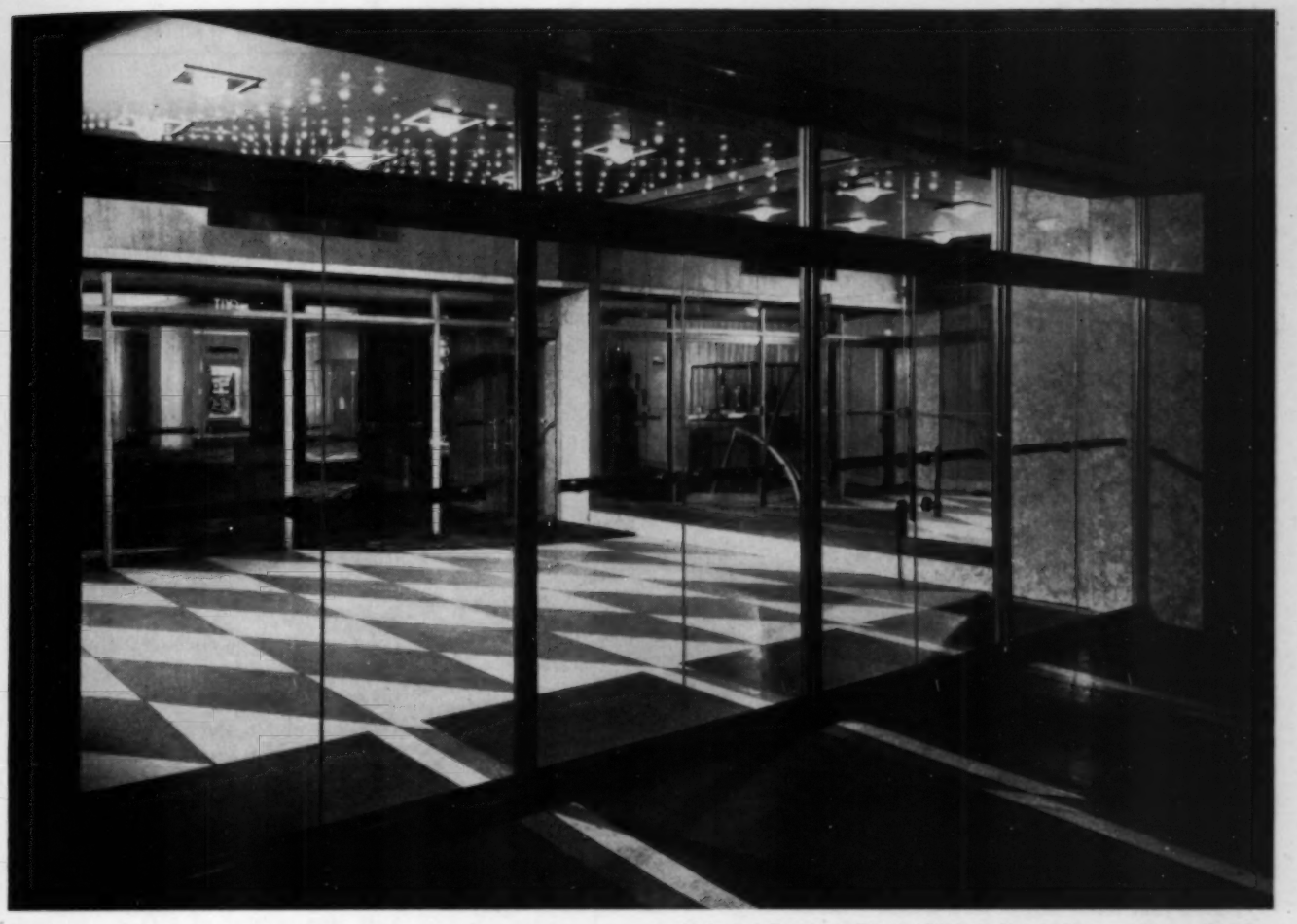
• Reconstruction Finance reported its May sales of FHA-insured and VA-guaranteed mortgages amounted to $65.8 million. Outstanding commitments to purchase mortgages amounting to $33 million were cancelled during the month. This resulted in a transfer from government financing to private financial institutions of mortgages aggregating approximately $98.8 million. It was estimated that potential impact on the federal budget was decreased by more than $3.5 million as a result of the activities of the Federal National Mortgage Association during May.

• Announcements of new approvals in both the public housing and slum clearance programs were coming with increasing frequency. A batch of 30 different planning loans for public housing programs was announced in one afternoon. The President gave his final sanction to the planning of 4691 low-rent homes for housing 18,760 persons in low-income families. Loans authorized totaled $1,456,400. They will enable housing authorities in 17 states to plan more than $39,873,000 worth of low-rent public housing.

• Enactment of the federal rent control extension measure keeps in force until June 30, 1951 the veterans preference regulation governing new housing construction. Under it veterans of World War II are given 30 days preference to buy or rent new housing not built for owner occupancy. The Office of the Housing Expediter, charged with enforcement, reminded that this is in effect nationwide. Included are areas not under rent control and the District of Columbia, which has its own rent control.

• One of the most comprehensive research projects authorized among the many in the housing agency's new program is that covering costs of marketing building materials. Every aspect of this

(*Continued on page 180*)



Valentine Theater in Toledo, Ohio. *Architects:* Rapp and Rapp, Chicago.

How to make a Good Impression

How does a person feel about a building he enters or leaves? Does he peg it as smart? Or dowdy?

The entrance has a lot to do with it . . . which probably explains the ever-growing use of *Tuf-flex** doors for stores, theaters, banks, hotels, apartments, offices and many other buildings.

These doors combine transparency with toughness. *Tuf-flex* doors are ¾"-thick plate glass, tempered to make them 3 to 5 times stronger than regular plate. They're made to stand constant usage.

They build traffic, too—a value store owners have discovered. These clear doors accent the invitation of the Visual Front—the wide-open front that has won such favor in modern store design.

All *Tuf-flex* doors are furnished complete, equipped with bronze or alumilited aluminum fittings, which are designed to receive standard pivot hinges and other builders' hardware. *Tuf-flex* doors are available in a variety of designs and hardware finishes to meet your requirements.

For full information—sizes, hardware and installation details—see your L·O·F Distributor. And mail the coupon below for a copy of our book on *Tuf-flex* doors.

*®

L·O·F GLASS

TUF·FLEX

Tempered

Plate Glass DOORS

MADE ONLY BY LIBBEY · OWENS · FORD GLASS COMPANY
6685 Nicholas Building, Toledo 3, Ohio

Libbey • Owens • Ford Glass Company
6685 Nicholas Building, Toledo 3, Ohio

Please send me a copy of your book showing uses of *Tuf-flex* doors, as well as your installation detail folder.

Name _____

Company _____

Address _____

DRAVO HEATERS

Saved $530,000*

in mammoth new auto plant

*Compared with conventional steam system cost.

Half a million is important money in anybody's language—and it gets more important when it's SAVED instead of spent.

That's just what happened when a leading automobile manufacturer recently built a mammoth new body plant, with over 600,000 sq. ft. of floor space, and with ceiling heights ranging up to 52-feet. Heat requirements, including fresh air tempering provisions, totalled 54,250,000 Btu. Lowest quoted price for a conventional steam boiler plant was $860,000. ACTUAL cost of a complete Dravo *Counterflo* Heater installation of 53 units was $330,000. These direct-fired warm-air heaters take care of all open-space heating requirements of the manufacturing area of the plant.

Bear in mind that these savings involved no compromise with heating effectiveness. The top-flight engineers responsible for selection knew how vital *comfort* is in keeping employes contented and promoting top output. They looked *first* for the finest in heating results . . . and *second* for economies. They found both profitably combined in Dravo Heaters.

Neither did this saving come from "cutting corners" in building the heater, but rather through the basic simplicity of method and equipment. Each of the oil-fired space heaters manufactures heat "on demand" to blanket its own assigned area with warmth. It also introduces fresh, tempered air into the building as needed. Modulating burner controls permit continuous operation and continuous air circulation. This minimizes temperature fluctuation, assures maximum comfort in all weathers, and conserves fuel—for when any section needs LESS heat, its unit burns LESS fuel. Units all have the Underwriters' Laboratories label. They can be converted from oil to gas, should the fuel situation make this desirable.

This spectacular saving has been duplicated on a lesser scale in thousands of smaller plants. If you are concerned with heating any new or old building, you owe it to yourself to find out how Dravo *Counterflo* Heaters are serving and saving for others . . . and how they can save both system costs and operating costs for YOU. Look in the yellow section of your phone book—or write us direct at Dravo Building, Pittsburgh 22, Pa., for Bulletin FH-523-68

DRAVO CORPORATION

Sales Representatives in Principal Cities

Mfd. and sold in Canada by Marine Industries, Ltd. Sorel, Quebec

Export Associates: Lynch, Wilde & Co., Washington 9, D. C.

THE RECORD REPORTS

WASHINGTON

(*Continued from page 178*)

subject will be studied by the University of Pennsylvania. The Philadelphia metropolitan area will be used as the initial laboratory. The study may branch out into other cities, however. A sum of $40,000 is being laid out by HHFA to support the study, which is expected to require four years. This research looks toward the eventual lowering of housing costs and sale prices as its goal.

• The President's veto of the so-called basing point bill gave rise to much speculation on future pricing practices. It seemed certain that further plant expansion would be encouraged as manufacturers sought to locate near their markets. Chairman Edwin C. Johnson (D-Colorado) of the Senate's Commerce committee, promptly announced he would appoint a special watchdog committee. This group will exercise constant vigilance over Federal Trade Commission activities connected with industrial pricing. Senator Johnson for the most part was critical of FTC's "frequent shifts" in policy on the basing point question.

• Federal government agencies and departments took official notice of the increasing trend in building material prices but on the whole appeared unconcerned that any great inflationary spiral was in the making. The FHA urged builders to avoid gray market offers and above all warned against permitting any hysteria to develop. The Commerce Department, through its Survey of Current Business, said expanding volume of residential building during the past winter and first half of 1950, with the rising public construction volume, was responsible for advances in both prices and production of building items.

• A Securities and Exchange Commission survey of the intentions of American business disclosed that plant and equipment expenditures for the first half of 1950 were expected to amount to $12.7 billion when all the figures were in. This would be only six per cent under the first half period outlays of 1949. An earlier Commission survey had indicated the difference would be 11 per cent in favor of 1949.

(*Continued on page 182*)

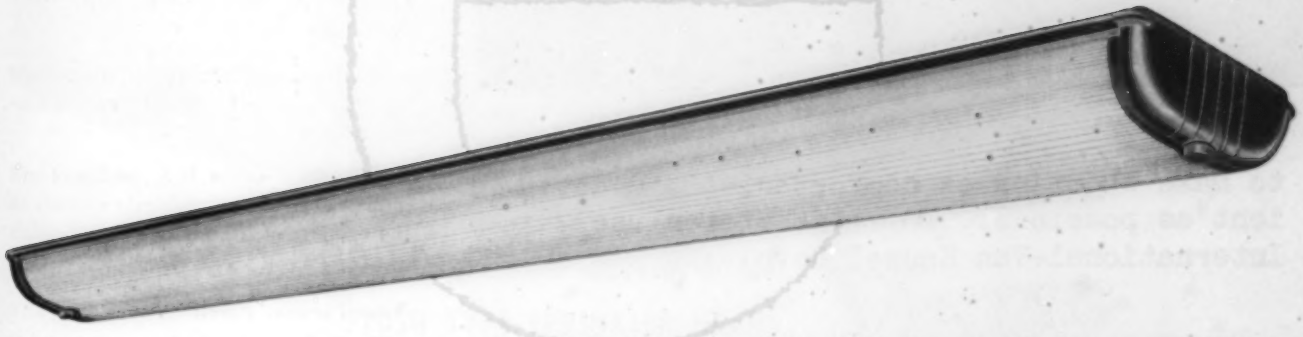
THE WASHBURN TUNNEL, PASADENA, TEXAS

Strategically located, this new 3791-foot vehicular tunnel burrows beneath the Houston ship channel to link the cities of Pasadena and Galena Park in Harris County Texas.

Completely surfaced with glossy ceramic tile, the curved walls and two-way thoroughfare are evenly illuminated by over 500 2-lamp SUNBEAM slimline fixtures. Specially designed by SUNBEAM to meet tunnel specifications, these units are mounted in continuous rows throughout the full length of the tunnel.

Palmer & Baker, Consult. Engineers — W. H. Pry, Elect. Engineer — Pfeiffer Electric Co., Elect. Contrs. — Merritt, Chapman & Scott Corp., General Contractors.

SUNBEAM'S NEW FIXTURE SPECIALLY DESIGNED FOR TUNNEL LIGHTING



Constructed entirely of aluminum extrusions and castings, this new unit (2200 series) features a one-piece, clear-ribbed polystyrene plastic panel which is supported along its entire length in interlocking aluminum extrusions which are gasketed to inhibit water seepage. Designed to take from one to four 72" slimline lamps in any milliamp rating including 430MA, this new unit has been constructed especially for installations in any area where atmospheric conditions warrant special considerations. For complete technical and mechanical information write:

SUNBEAM visionaire LIGHTING COMPANY

SUNBEAM LIGHTING COMPANY • 777 EAST 14TH PLACE • LOS ANGELES 21, CALIFORNIA

THE RECORD REPORTS

(*Continued from page 180*)

ON THE CALENDAR

Through Sept. 4: "Three Modern Styles," an exhibition of painting and sculpture, Museum of Modern Art, 11 W. 53rd St., New York 19, N. Y.

Through Sept. 4: Chicago Fair of 1950, dramatizing the achievements of science, agriculture, and industry.

Aug. 13–16: National Planning Conference, American Society of Planning Officials, Hotel Biltmore, Los Angeles, Calif.

Aug. 27–Sept. 2: 20th International Congress for Housing and Planning, City University, Amsterdam, The Netherlands.

Sept. 9–17: National Home Furnishings Show, Grand Central Palace, New York, N. Y.

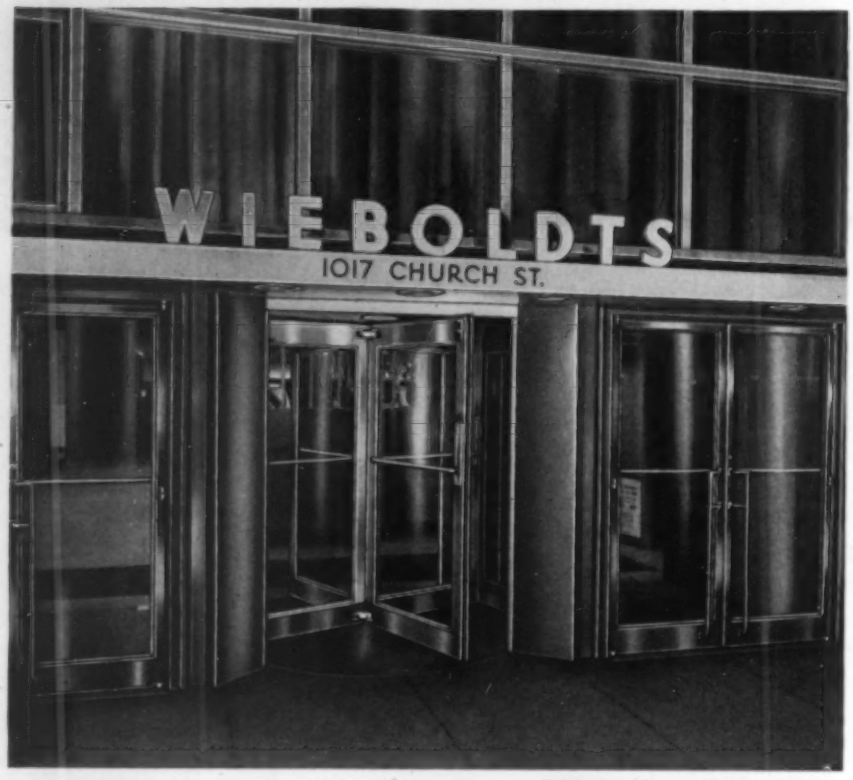
Sept. 18–21: 52nd Annual Convention, American Hospital Association, Atlantic City, N. J.

Sept. 28–30: Annual Convention, California Council, The American Institute of Architects, Ahwahnee Hotel, Yosemite National Park.

Oct. 1–Nov. 1: First Annual Exhibition, Society of Contemporary Designers, California State Exposition Bldg., Los Angeles, Calif.

Oct. 16–19: 17th Annual Meeting, National Association of Housing Officials, Hotel Statler, Detroit, Mich.

Oct. 23–26: 1950 Convention, Structural Clay Products Industry, Broadmoor Hotel, Colorado Springs, Colo.



Holabird and Root and Burgee, Architects

to make shopping as comfortable and convenient as possible...Wieboldt Stores use International-Van Kannel Revolving Doors.

There are six stock steel International-Van Kannel Revolving Doors at the new Wieboldt Evanston store . . . designed to make Wieboldt's the most accessible . . . the most convenient . . . the most comfortable department store in the entire area. Wieboldt Stores, Inc., have used revolving doors in their other stores for more than 33 years.

see our CATALOG in SWEET'S FILE

REVOLVING INTERNATIONAL-VAN KANNEL DOORS

1806 EDGAR STREET EVANSVILLE 7, IND.

OFFICE NOTES

Offices Opened, Reopened

• Welton Becket, A.I.A., director of the architectural firm of Wurdeman and Becket, has announced the opening of a branch office in San Francisco, at 507 Howard St. The new office will be headed by Firman Meyers and Griswald Raetze, A.I.A.

• Walter P. Blum, Architect, announces the opening of his offices at 4801 Lemmon Ave., Dallas, Tex.

• "Interiors for Living" has opened showrooms at 1147 Merchandise Mart, Chicago. Mrs. Odien Steele Hughes is Director.

• Slater and Chait, Architects, have opened new offices at 15 Park Ave., New York, N. Y.

• Charles Wagner, Architect, has opened an office at 417 W. Church Ave., Knoxville, Tenn.

• Emanuel Weisfeld, R.A., architect and industrial design consultant, announces the opening of his office at 207 E. 37th St., New York 16, N. Y.

New Firms, Firm Changes

• The partnership of Alcox and Stritzel, Architects, has been dissolved. Frederick Stritzel, Architect, is continuing his office at 539 Town St., Columbus, Ohio.

• Lee Burns and David V. Burns announce the continuation of their partnership as architects with the name of Burns and Burns at 333 N. Pennsylvania St., Indianapolis, Ind.

• Alex Danin and Kenneth D. Wheeler wish to announce the formation of a

(*Continued on page 184*)

WIEBOLDT'S ADDS THE BEAUTY OF

FLUSH TYPE SPRINKLER HEADS

VIKING

Wieboldt's achieved the ultimate in beauty . . . provided maximum fire protection by using Viking Flush Type Sprinkler Heads. You too can leave the architectural beauty of your next building unspoiled . . . yet provide maximum fire protection, by specifying Viking Flush Type Sprinkler Heads. Viking Flush Type Heads are unobtrusive . . . but they're always ready when trouble comes. Call your nearest Viking representative or write direct if you need assistance in the planning, engineering or installation of a sprinkler system.

Viking Devices are approved by Underwriters' Laboratories and Factory Mutual Laboratories.

THE VIKING CORPORATION, HASTINGS, MICHIGAN

 (Continued from page 182)

partnership for the general practice of architecture under the firm name of Danin & Wheeler, Architects, at 1837 Victory Blvd., Staten Island 14, N. Y.

• William K. Duryea and E. Hartzell Elkins announce the forming of a partnership to practice architecture under the name of Duryea and Elkins. Their offices are located at 910½ Westheimer, Houston, Tex.

• Hardy S. Ferguson has joined the Pulp and Paper Engineering Division of The H. K. Ferguson Co., Industrial Engineers and Builders, as a consultant. Mr. Ferguson recently terminated his own engineering concern, long active in engineering and design of pulp and paper facilities. Several of the principal engineers in his organization have also joined the H. K. Ferguson Co.

The company has announced an expansion of its Eastern District Office at 19 Rector St., New York, N. Y.

• James L. O'Bryan, Earl R. Wilson, and Robert E. Earnheart announce the formation of a partnership under the name of O'Bryan, Wilson & Earnheart, Architects, at 1135 Minnesota Ave., Kansas City, Kans.

• Tillman Scheeren Jr. and Walter F. Rittenhouse announce the formation of a partnership for the practice of architecture under the firm name of Scheeren & Rittenhouse, with offices at Boarts Bldg., 110 N. McKean St., Kittaning, Pa.

New Addresses

The following new addresses have been announced:

Mario J. Ciampi, Architect, Suite 503, 425 Bush St., San Francisco 8, Calif.

Robert T. Coolidge, Architect, 200 Blake Rd., Hamden 14, Conn.

David Fried, Architect, 262 Washington St., Boston, Mass., in association with Archie Riskin, Architect.

Cecil A. Martin, A.I.A., Architect, 503 Karbach Block, 15th and Douglas, Omaha 2, Neb.

Andre Merle Assocs., Registered Engineers, 1424 K St., N.W., Washington, D. C.

ELECTIONS APPOINTMENTS

• Gail A. Hathaway, special assistant to the Chief of Engineers, Department of the Army, has been nominated as 1951 president of the American Society of Civil Engineers. Confirmation of his nomination by letter ballot of the membership is scheduled for later in the year.

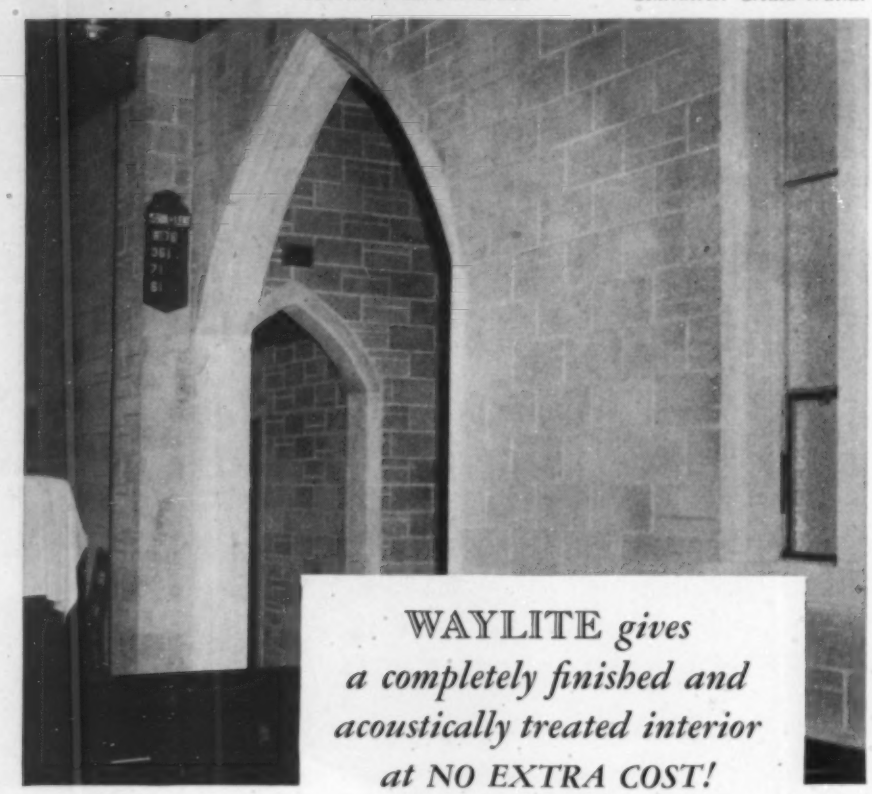
• Appointment of George I. Bottcher as chief engineer of Allegheny Ludlum Steel Corp. has been announced. J. F. Chapman and R. E. Smith have been named as assistants to the chief engineer.

• George A. Bryant, president of The Austin Co., engineering and construction organization with headquarters in Cleveland, has been named a member of the Board of Trustees of Oberlin College.

• Ralph L. Goetzenberger, representing the Engineers' Council for Professional Development, has been elected chairman of the Citizens' Federal Committee on Education, an organization devoted to

(Continued on page 186)

WAYLITE *interior Zion Evangelical Lutheran Church, Chicago*
Architect: Herbert Brand • *Contractor: Crouch-Walker*



WAYLITE *gives a completely finished and acoustically treated interior at NO EXTRA COST!*

A Waylite masonry structural wall with the interior surface left exposed provides a 3-fold advantage for many types of structures. The soft lights and shadows of the textured grey surface are attractive. Waylite masonry has a noise coefficient of up to 50% and provides adequate acoustical treatment. It is a very economical architectural treatment because plaster or other finishes are eliminated.

You'll find such walls useful in churches, theatres, schools and many other types of buildings. You pay only for a structural wall and without further cost you have an attractive interior surface—completely finished—and acoustically treated!

For further information address Waylite Company, 105 W. Madison Street, Chicago 2, or Box 30, Bethlehem, Pennsylvania.

WAYLITE
MASONRY UNITS

How to cut costs when drafting revisions are necessary

* **A case history based on the experience of the Virginia Department of Highways**

1

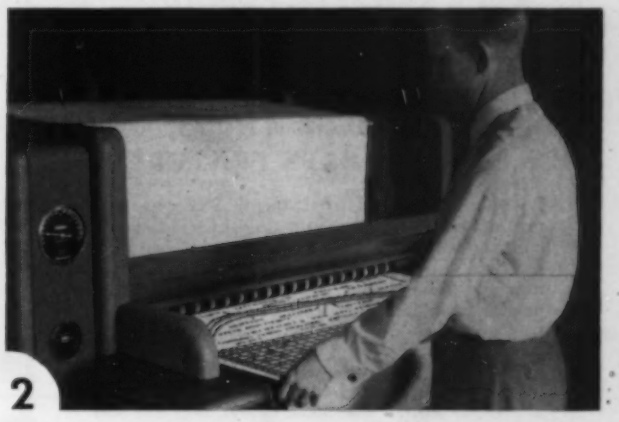
TODAY the State of Virginia is engaged in a long-range Highway Zoning Program which necessitates changing thousands of drawings to include proposed right of ways.

How to do the job most economically was an important question: Retracing was ruled out—too slow, too expensive. The use of intermediate prints was considered next. They had to be long-lasting . . . easy to make . . . easy to revise.

Here's why Kodagraph Autopositive Paper was chosen for the job:

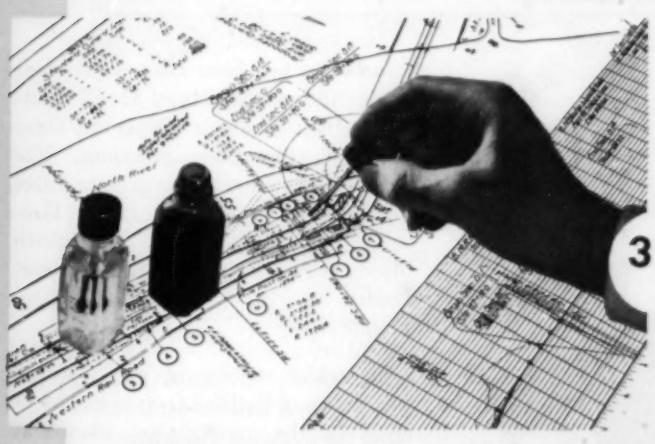
Long-lasting intermediates are assured. In a "permanence test" made by the Virginia Dept. of Highways, an Autopositive print was left on a roof top for 36 days. During this time this photographic intermediate was exposed to 200 hours of sunlight . . . 6.88 inches of rain. Despite all of this abuse it was declared "good as new."

Proof, indeed, that "Autopositives" will stand up under less trying, normal conditions . . . will remain intact in the files year after year . . . ready to produce sharp, clean blueprints whenever needed.



2

Photographic intermediates are produced at a new low cost. When "Autopositive" is used, positive photographic intermediates are produced *directly* without a negative step, without darkroom handling. Maximum efficiency is realized by the Virginia Dept. of Highways because its "Autopositives" are turned out automatically . . . in a continuous blueprint machine, which can be converted readily for Autopositive production.

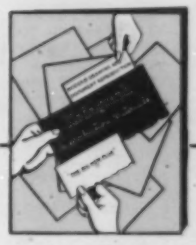


3

Drafting revisions are easily made. Unwanted details—such as existing right of ways—are removed quickly from "Autopositives" with corrector fluid. Then the proposed right of ways are drawn in with pencil or ink. Thus, new masters—prepared without costly redrafting—are ready to turn out the blueprints needed for county supervisors and resident engineers.

Kodagraph Autopositive Paper

"The Big New Plus" in engineering drawing reproduction



95

- **It enables you, or your local blueprinter, to produce positive photographic intermediates at a new low cost.**
- **It enables you to protect valuable originals from wear and tear . . . obtain more legible final prints.**
- **It gives you photo-lasting file copies.**
- **It restores old, worn drawings . . . reproduces opaques.**

MAIL COUPON FOR FREE BOOKLET

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.

Gentlemen: Please send me a copy of your illustrated booklet giving all the facts on Kodagraph Autopositive Paper.

Name_____ Position_____
(please print)

Company_____

Street_____

City_____ State_____

Kodak
TRADE-MARK

(*Continued from page 184*)

improving educational standards and practices throughout the United States. Mr. Goetzenberger, vice president of the Minneapolis-Honeywell Regulator Co., has just completed a term as secretary of the council.

• Leaders in the construction industry, real estate, racial relations and community activities were elected to the Board of Directors of the Citizens' Housing and Planning Council of New York at its 13th annual meeting.

New members elected included Paul T. O'Keefe, vice president of the real estate firm of James Felt and Co.; Reginald A. Johnson, director of field services of the National Urban League; Mark A. McCloskey, director of the division of Community Education of the Board of Education; I. Roy Psaty of the construction firm of Psaty and Fuhrman, Inc.; Allison Lunham, associate professor of law at Columbia University; and Sylvia W. Stark, statistical expert.

Among those reelected to the Board were the Very Rev. Mgr. E. Roberts Moore; J. Clarence Lavies Jr., president of J. Clarence Lavies, Inc., real estate; Irving L. Lazere, vice president of the Wilaka Construction Co.; Edward S. Lewis, executive director of the Urban League of Greater New York; Albert Pleydell, former Commissioner of Purchase of New York City; Dr. Robert W. Searle, editor of *The Protestant World;* and Mrs. Raymond V. Ingersoll, civic leader.

• The appointment of Roland M. Sawyer of Pittsburgh to the newly-created post of administrative officer for minority group housing has been announced by Commissioner Franklin D. Richards of the Federal Housing Administration.

• Earl V. Harlow has been appointed engineering assistant to Walter F. Perkins, vice president and general manager of the Metal Products Division of Koppers Co., Inc.

• Charles Newton Kimball, Sc.D., has been elected president of the Midwest Research Institute. Other officers are: George E. Ziegler, Ph.D., director of research; Leon T. Swan, vice president and treasurer; S. C. Lechtman, secretary; and V. L. Barnett, assistant treasurer.

• Jan Juta has been elected president of the National Society of Mural Painters for 1950–51. Other officers are: Dean Cornwell, first vice president; Nils Hogner, second vice president; Ethel Parsons Paullin, secretary; Hanley Henoch, treasurer. Directors are Hildreth Miere, Allyn Cox, Paul C. Robertson, Lumen Martin Winter, and Helen Treadwell.

• The chief officers of the National Association of Building Owners and Managers for the coming year, elected at the Association's 43rd annual meeting in Seattle, will be: James F. Cook Jr., St. Louis, president; James M. Bradford, Seattle, first vice president; and Sterling H. Bigler, Philadelphia, secretary-treasurer.

• The firm of Guy B. Panero Engineers has been selected by Societa Generale Immobiliare to perform engineering services for one of the largest hotels to be built in Rome since the end of the war. Representatives of the Panero firm

(*Continued on page 188*)

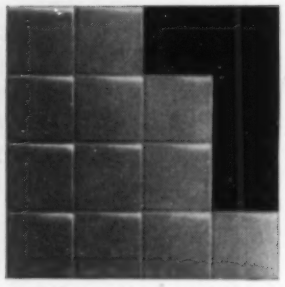
Which Tile Should You Specify?

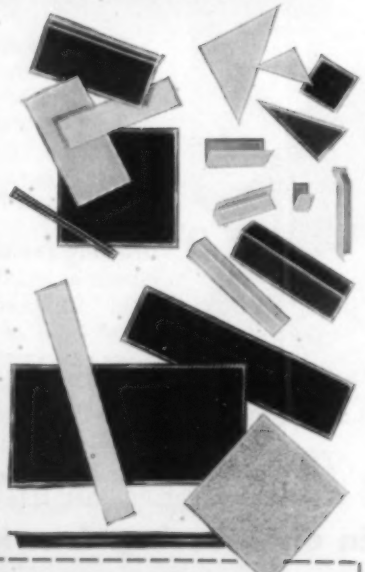
HASTINGS AIRCRAFT ALUMINUM *alumitile*

COMPARE WITH ALL OTHERS . . .

CHECK THESE SALES FEATURES!

Features listed below have an important bearing on the amazing success dealers, contractors and architects are experiencing with *HASTINGS alumitile*, the exciting, modern, new wall facing. You, too, can enjoy increased profits from handling and recommending this well known line.





1. *Alumitile* is formed *after* it is painted—an unusual feature. Won't chip, crack, peel or corrode. Enamel finish permanently bonded to aircraft aluminum.

2. Over 25 different shapes and sizes of tile. *Count them* and *compare* with the number offered in other makes. Inside and outside corners, bases, caps, stripes, triangles; matching switch plates.

3. Fourteen vital colors, available in tile of various patterns, for attractive lettering and unusual designs. Does the tile you are handling have this "self-decorating" feature? Can you do lettering with it, as you can with *alumitile?*

4. *Fireproof, rustproof, waterproof.* Resistant to common acids. No unsightly mortar lines to collect dirt and grease. Easy to clean . . . sanitary . . . beautiful. Guaranteed long life.

5. Adapted to both *interior* and *exterior* use, with a choice of finish. Serves countless uses for homes, institutions, commercial buildings. Compare *alumitile* with other tile for flexibility.

6. *Light in weight* . . . 120 sq. ft. weigh only 37 lbs. Easy to handle, lower shipping costs. Strength without bulk . . . requires less storage space. Easy to apply . . . saves labor hours.

VERSATILE TILE CUTTER

A handy tool that applicators who have used it would not be without. Trims and makes a perfect factory bevel. Four dies in one . . . cuts as small as 5/8" and up to 10". Does a professional job. Supplied by Metal Tile Products as one of the "extras" for which *alumitile* is famous.

The St. Joseph Hospital of Bangor, Maine, writes of HASTINGS *alumitile*, "We are happy to announce what satisfaction and pleasant atmosphere it brought and how daily maintenance problems have been cleared right along." The Atlanta Biltmore Hotel says, "After extensive and rigid tests, we decided to install *alumitile* throughout the hotel."

WRITE TODAY!

METAL TILE PRODUCTS, INC.
HASTINGS, MICHIGAN
USE HANDY COUPON

METAL TILE PRODUCTS, INC.
Department 802, Hastings, Michigan

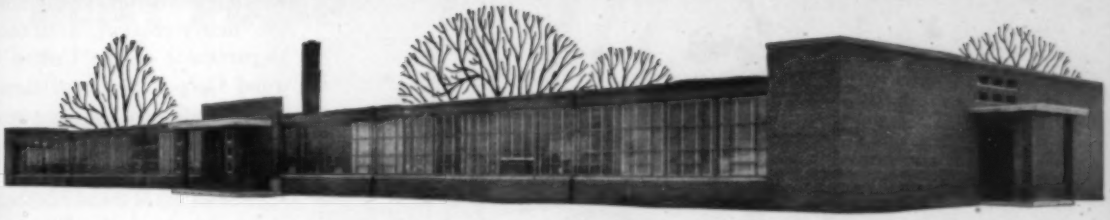
I should like to know more about your products.
I am a ☐ Distributor, ☐ Dealer, ☐ Architect, ☐ Contractor.

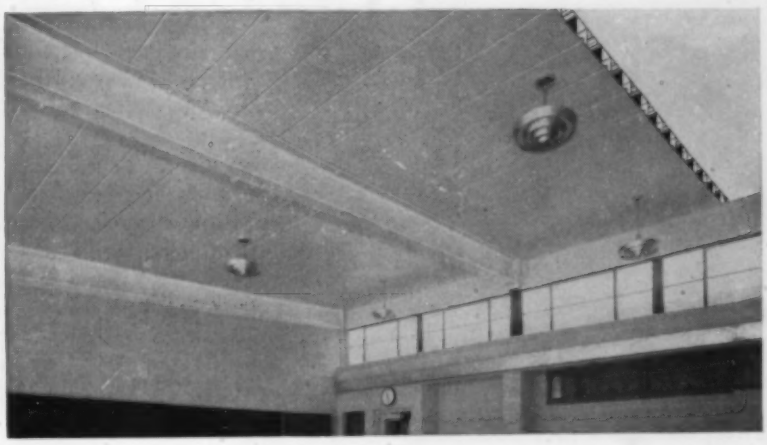
Name_____

Address_____

City_____ State_____

How to Slash the Cost of Structural Steel in Schools





Bendle School at Flint, Michigan, where the *two* flat surfaces of "AD" Panels form the ceilings and roof. *Architect:* Bennett & Straight, Dearborn. *Contractor:* Perry-Root Company, Flint.

Lower illustration shows how side laps interlock to form smooth, flat ceilings, strong, flat roof. Panels standardized in 16" width. Depths 3", 4½", 6" and 7½". Gauges 16 to 13.

There are fewer purlins here . . . less expense. In many cases, both purlins and girders are completely eliminated. Just lay new, long-span Fenestra* "AD" Panels on supporting masonry . . . one of the quickest, strongest, most economical ways to build a one-story school.

Quickly laid without special skills, these good-looking lightweight metal panels interlock to give you a smooth, finished *ceiling*. So builders paint instead of plaster. If you wish, Fenestra "AD" Panels can be perforated and backed with an insulating element to soak up sound.

"AD" Panels form the *roof*—over the strong, flat surface, roofing goes on quickly, smoothly.

There's a low-cost, beautiful one-story school—clean-lined and easy to maintain. Economical to heat. Noncombustible.

Get the whole story about this remarkable, new method of school building. And the product that makes it possible . . . the multi-purpose panel package that is structural material, finished ceiling, strong, flat roof, built-in acoustical treatment, safety measure against fire—all in one.

Call your nearest Fenestra representative, listed in the yellow section of your phone book, or mail the coupon.

*Trademark

Fenestra

Panels • Windows • Doors

"Use Our 25 Years' Experience in Metal Panel Engineering"

DETROIT STEEL PRODUCTS COMPANY
Dept. AR-8, 2252 E. Grand Boulevard
Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name _____

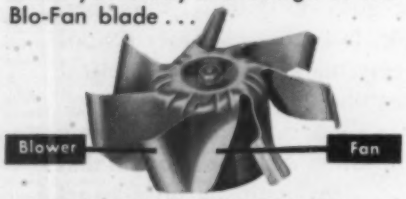
Company _____

Address _____

Blo-Fan* really moves air!

This is somewhat extreme, but it's a fact that BLO-FAN moves more air than any conventional type of home ventilator!

It's easy to understand why when you study the design of the Blo-Fan blade . . .



Remember, if it hasn't got this blade, it isn't a Blo-Fan.

. . . This blade combines only the positive principles of both fan and blower. The fan element literally scoops up the air and feeds it to the blower element which expels it with great force. Actually, Blo-Fan lowers "shock loss" of the average blower to an irreducible minimum . . . That's why Blo-Fan *moves more air* at moderate speeds than either a fan or blower type ventilator . . .

And, on the subject of speed, Blo-Fan Model 210 is equipped with a 9-speed switch . . .

. . . At low to medium speeds, Blo-Fan handles the normal volume of steam and fumes easily, but for emergencies (like burning the toast or grease in the broiler), turn Blo-Fan to high speed and you can clear the room immediately.

This exclusive Blo-Fan feature allows the housewife to control the rate of ventilation in her home as easily as she controls the speed of her car!!!

Spot Ventilation at the Point of Air Pollution. For Kitchen, Bath, Game Room, and Laundry.

Blo-Fan

*TRADE MARK REG.

THE MOST IMITATED HOME VENTILATOR IN AMERICA

25th

Stocked by more than 600 wholesalers in 350 cities.

PRYNE & CO., INC. BOX R-8, POMONA, CALIFORNIA

Factories: Pomona, California; Newark, New Jersey Warehouses: Los Angeles, San Francisco, Chicago, Atlanta

THE RECORD REPORTS

(*Continued from page 186*)

are now in Rome making preliminary engineer studies for the new 11-story hotel, which will contain 415 guest rooms and suites in addition to a residential wing with 62 apartments.

• F. B. Peckham has been named to head the newly-created Architects' Service Department of the United States Plywood Corp. The department will have representatives in the company's branches in principal cities.

• Martyn N. Weston has been reelected as president of the Brooklyn Chapter of The American Institute of Architects. Other officers elected are: Vito P. Battista, vice president; Andrew DiCamillo, treasurer; Harry Silverman, secretary. Directors elected are Maxwell A. Cantor, Joseph Levy Jr., Harry L. Yakel and Vincent Pellegrino.

At its annual convention, the chapter also approved the report of the Unification Committee in connection with the bylaws of the proposed Architects Council of New York City. The chapter's annual medal for excellence in design was awarded to the outstanding graduate student at Pratt Institute, Joseph A. Mertz.

COMPETITIONS

• Durham & Bates, general insurance agents of Portland, Ore., are offering prizes totaling $1000 through the National Fire Protection Association for the best description of methods to provide ventilation to reduce fire and smoke losses from a basement fire in a typical mercantile store.

The contest, which is open to all except NFPA staff members and Durham & Bates employees, offers a first prize of $500; second prize, $250; and third prize, $100. Three honorable mention prizes of $50 each also will be among the awards.

Information is available from the executive office of the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. The contest closes Nov. 1.

Judges for the contest are: John J. Ahorn, director, department of fire protection and safety engineering, Illinois Institute of Technology; A. H. Baum, president, Building Officials Conference

(*Continued on page 190*)

THE NEW EQUITABLE SAVINGS AND LOAN ASSOCIATION BUILDING
IN PORTLAND, OREGON

Weather-conditioned with the nation's largest HEAT PUMP

Equipped throughout for lasting efficiency with JENKINS VALVES

Owner:
EQUITABLE SAVINGS & LOAN ASSOCIATION

Architect:
PIETRO BELLUSCHI

General Contractor:
ROSS B. HAMMOND CO.

Consulting Engineer:
J. DONALD KROEKER

Mechanical Contractor:
P. S. LORD

Air Conditioning System:
THE TRANE CO.

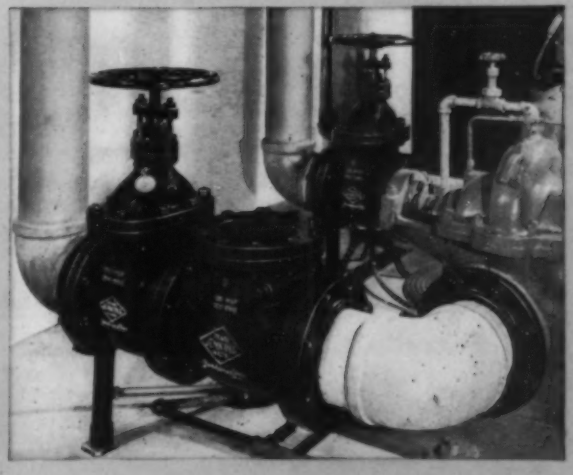
The new Equitable Building in Portland, Oregon, presents an impressive array of "firsts" in ultra-modern construction.

Most notable innovation is the reverse cycle refrigeration—the intriguing new "Heat Pump"—for all-year air conditioning. This superbly engineered system either heats or cools the building, as needed, and in certain seasons, provides heating in some zones, and cooling with humidification in others, both at the same time.

To be economically practical, this highly flexible system must operate with unfaltering efficiency. Every component was selected for dependable performance and exceptional durability.

The choice of Jenkins Valves, 582 in all, for all pump and convector lines, and for general pipelines as well, is significant. It is further proof that leading architects, engineers, and contractors rely on Jenkins whenever the installation must meet the highest standards of efficiency and economy.

Despite their extra value, *you pay no more* for Jenkins Valves. For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting economy.



Sold through leading Distributors everywhere.

Jenkins Bros., 100 Park Ave., New York 17.
Jenkins Bros., Ltd., Montreal.

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES
SINCE 1864 TRADE JENKINS MARK

Jenkins Bros.

EASTGATE APARTMENTS

DRIVE-IT "300" *cuts fastening costs 50% on Big Boston Apartment Job!*

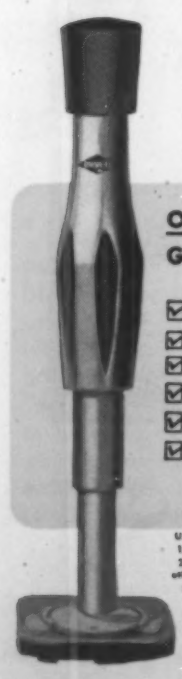
Over 9000 drive-pins were used at the Eastgate Apartments to fasten ceiling runner channels to concrete "at a saving of over 50%" writes the contractor.

Drive-It is one of the greatest cost-cutting tools ever invented. Hundreds of letters attest to the fact that steel or wood to concrete or steel fastening can be done with Drive-It *at savings of 50% to 85% in man-hour costs!*

Every architect, building engineer and contractor should investigate the DRIVE-IT system of fastening. It is Underwriter Laboratories approved for efficiency and holding power and engineered for *super-safe* operation.

Clip the coupon below and let us tell you how you, too, can save *safely* with DRIVE-IT!

Distributors Coast to Coast
POWDER POWER TOOL CORPORATION
0725 S. W. Woods Street Portland 1, Oregon
(Canadian Distributor:) Ammo Power Tool Co., Ltd.
Foot of McLean Drive, Vancouver, B. C.



DRIVE-IT "300"

U.S. Pat No. 1,994,117; 2,400,878 other patents pending

ONLY DRIVE-IT "300" GIVES YOU ALL THESE FEATURES

- ☑ Controlled power with one power charge
- ☑ Positive, 3-way safety
- ☑ Uses flangeless drive-pins
- ☑ Permanent, adjustable safety pad
- ☑ Semi-silent operation
- ☑ Automatic extension barrel

APPROVED BY UNDERWRITERS' LABORATORIES

DRIVE-IT

Send me the money-saving story of DRIVE-IT

Name_____
Company_____
Address_____
City_____ Zone____ State_____

POWDER-POWER TOOL CORPORATION, 0725 S. W WOODS STREET, PORTLAND 1, OREGON

THE RECORD REPORTS

(Continued from page 188)

of America; Theodore I. Coe, technical secretary, American Institute of Architects; Ray C. Corson, Engineer, Standards Department, Factory Mutual Engineering Division, and chairman NFPA Committee on Building Construction; and A. J. Mullaney, chief fire marshal, Chicago, and past president, International Association of Fire Chiefs.

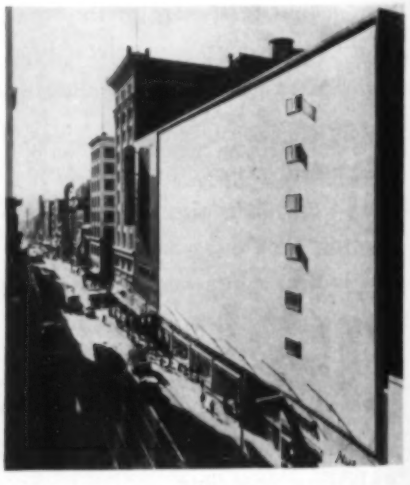
• Entries are due August 24 in the competition for the design of lamps sponsored by the Museum of Modern Art in cooperation with The Heifetz Co.

Prizes totaling $2600 plus royalties are offered for the design of table lamps and floor lamps. The Heifetz Co. will manufacture at least three-quarters of the winning designs and these will be exhibited at the Museum early in 1951.

Program and entry blanks are available from: Miss Greta Daniel, Lamp Competition Director, Museum of Modern Art, 11 W. 53rd St., New York 19, N. Y.

AWARDS

• Architects Kivett and Myers of Kansas City have received the Medal Award of the Kansas City Chapter of The America Institute of Architects.



The award, given for the exterior design of Macy's, Kansas City, cited the store as the best example in commercial design for the year 1949.

• Quentin N. Hofman, 28-year-old University of Illinois architectural student, has been announced as the winner of a

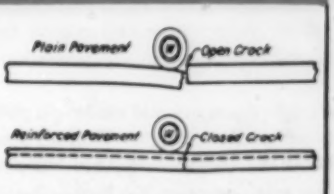
(Continued on page 192)

On the Pennsylvania Turnpike

American Welded Wire Fabric

Longer paving slabs, fewer joints, improve riding qualities on concrete highways reinforced with American Welded Wire Fabric. Reduced rate of cracking, prevention of heaving and spalling, also reduce maintenance costs, increase service life of the highway.

As the wheel load approaches an open crack in plain pavement, one slab end carries the entire load. As the wheel load approaches the closed crack in pavement reinforced with American Welded Wire Fabric, both slab ends, instead of one, carry the load, preventing damage to the slab and to the subgrade.



THE men who plan and build our modern concrete superhighways have helped to make American Welded Wire Fabric the world's most widely used reinforcement for pavement construction.

American Welded Wire Fabric keeps cracks that may form tightly closed—preventing progressive damage — distributes stresses, strains and impact in all directions.

U·S·S American Welded Wire Fabric reinforcement in rolls or in flat sheets is easily handled, lies flat and stays in place. This means important savings in labor costs and construction time.

Standard styles of U·S·S American Welded Wire Fabric are available in every locality from jobbers' stocks when furnished in rolls. When flat sheets or special styles of fabric are required—you can depend upon our Donora, Pa. and Joliet, Ill., mills to maintain your construction schedules.

When you are planning any type of concrete construction, our technical staff will supply complete data on specific designs and standard styles of fabric that are most readily available. Literature containing valuable information is also available. Write to our nearest sales office today, you incur no obligation.

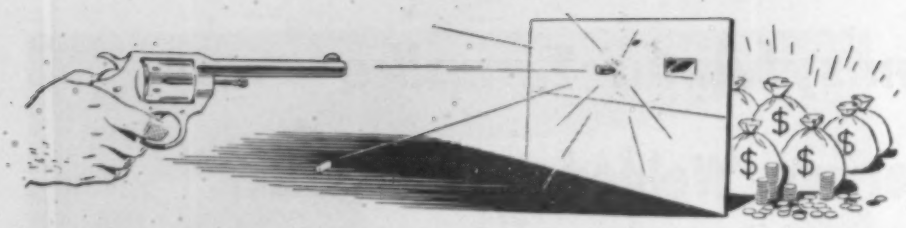
AMERICAN STEEL & WIRE COMPANY
GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO
PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY
BIRMINGHAM, SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every concrete paving job needs

AMERICAN WELDED WIRE FABRIC
reinforcement

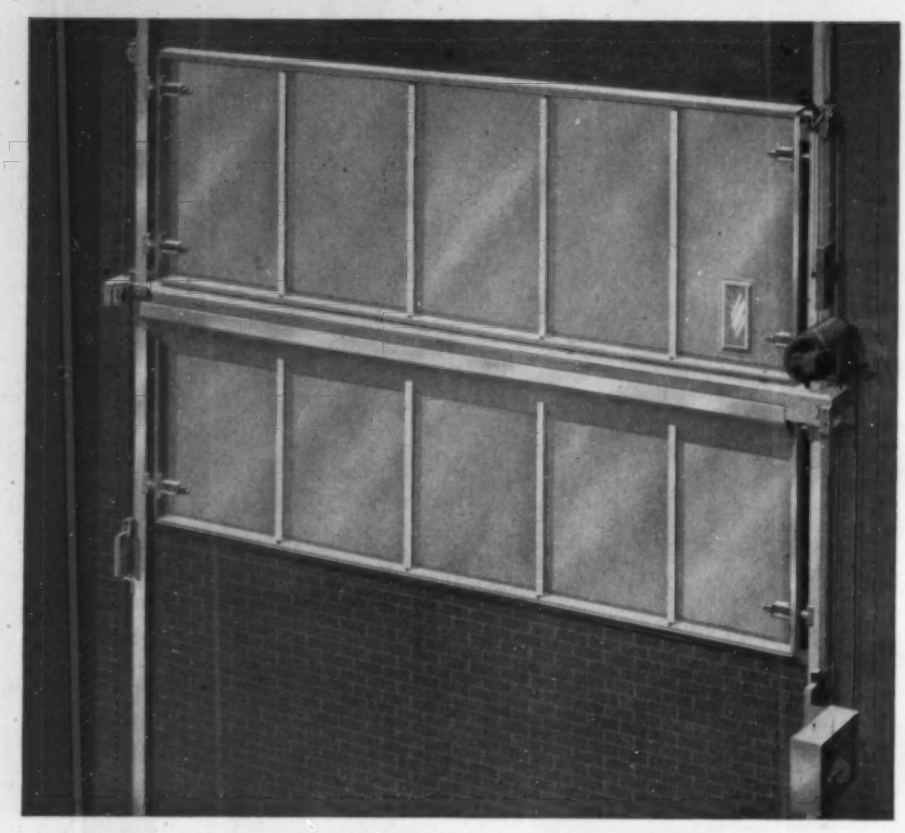
USS TRADE MARK

UNITED STATES STEEL



OTIS BUILDS BULLET-PROOF HOISTWAY DOORS FOR MONEY CARRYING ELEVATORS

Bullet-Proof or Standard



A shaftway view of an Otis power-operated door installation.

Otis all-steel, bi-parting freight doors are available for all size openings. Either power-operated, as illustrated, or manually operated. They're all-steel construction. Angle iron frame. Vertical stiffener bars. Bolted steel panels that are easily removed for replacement when necessary. Otis freight doors have no easily damaged wood panels; no wood cores to rot.

When required, Otis hoistway doors may be ordered with any of these optional features: Weather-stripping for exterior doors; special panels, including stainless steel, to match architectural treatments; extra heat insulation; non-sparking electrical equipment for hazardous atmospheric conditions.

All Otis standard bi-parting doors protect the building against the spread of fire into or out of the hoistway. Their construction conforms to the requirements of the Fire Underwriters' Laboratories and may be furnished either with or without Underwriters' labels.

Otis freight doors are also made in a pass-type for limited floor heights. All doors open smoothly to full car opening. Lock independently for safe operation. For further details write for Booklet A-389-F or phone your Otis office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

Otis

ALL-STEEL · BI-PARTING

FREIGHT DOORS

THE RECORD REPORTS

(*Continued from page 190*)

national design contest sponsored by the Beaux-Arts Institute of Design, in cooperation with the Tile Council of America. The contest called for the design of a children's tuberculosis sanitarium, with special consideration given to the use of clay tile.

Three other University of Illinois students — Richard Nevara of Chicago, Kenneth H. Mendenhall of Indianapolis, and J. R. Hallbeck of Champaign, Ill. — took second, third and fourth prizes respectively.

The contest drew 160 entries from architectural students throughout the United States.

Below: Quentin Hofman

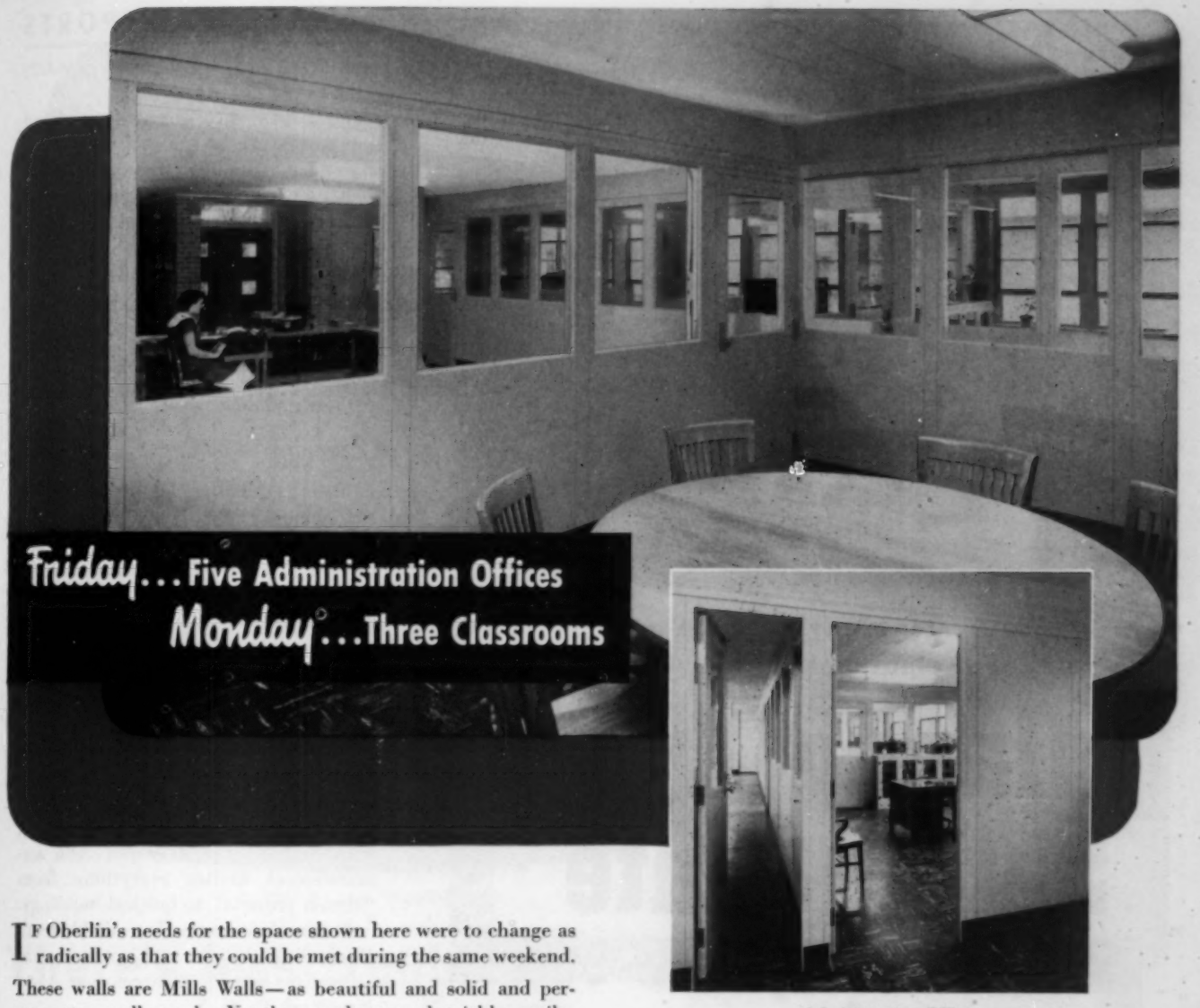
• Frederick H. Zurmuhlen, Commissioner of Public Works, has received the 1950 award of the New York Association of Consulting Engineers. The award, in the form of a hand-lettered scroll, noted particularly the work of Commissioner Zurmuhlen in sponsoring sound engineering practices and promoting cooperation between the department, architects and engineers.

• Awards of 10 scholarships in civil engineering, each of $1000, have been announced by the American Institute of Steel Construction. The winners were selected from a field of 58 high school seniors, each nominated by a structural steel fabricating company. All entrants took College Entrance Examination Board tests.

EXHIBITIONS

• Architects have been invited to submit exhibits of their hospital work for the architectural exhibit of hospitals

(*Continued on page 194*)



Administration Offices
Department of Buildings and Grounds
Oberlin College—Oberlin, Ohio

IF Oberlin's needs for the space shown here were to change as radically as that they could be met during the same weekend.

These walls are Mills Walls—as beautiful and solid and permanent as walls can be. Yet they can be moved quickly, easily, economically to fit new space layouts without disturbing administrative or educational routine.

Completely insulated and soundproof, Mills Walls create pleasant, efficient environment for classrooms, laboratories and offices. They are distinguished by their refined architectural design, their structural stability, the pleasing soft colors of their baked-on enamel lifetime finishes. Their smooth flush surfaces are specially treated to eliminate all harsh light reflection. They will not chip or mar. They require no maintenance but occasional ordinary washing to keep their fresh new look.

Maximum mobility with a minimum of labor is achieved through exclusive Mills features, the result of thirty years experience in this field. All-welded panel prefabrication permits easy erection and rearrangement. Entire sections of walls can be moved intact, units are interchangeable. Since all parts are reused there is no loss of materials. Air conditioning, light and phone lines are easily installed in separate lay-in raceways in panel connections, cornice and base.

Complete responsibility for the design, construction and installation of Mills Movable Metal Walls is characteristic of Mills service.

THE MILLS COMPANY
961 WAYSIDE ROAD • CLEVELAND 10, OHIO

You'll find this new 48-page Mills Catalog bound into Sweet's File, Architectural, for 1950—or we'll be glad to send you an easy-to-handle copy for your individual use. Just ask for Catalog No. 50.

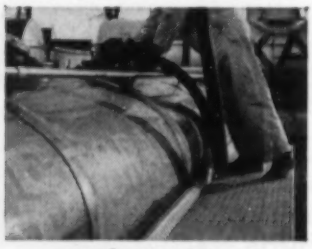
★ MILLS *Movable* METAL WALLS ★

"His Lordship refuses to walk the plank unless we put slip-resistant 4-WAY Safety Plate on it."

For greater safety under foot, in your plant and on your products

Inland 4-Way® Safetu Plate

Firesafe



Safe Footing

Easy To Fabricate

Easy Assembly

INLAND

INLAND STEEL COMPANY, Dept., AR 80
38 So. Dearborn St., Chicago 3, Ill.
Sales Offices: Chicago, Davenport, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis and St. Paul.

New Bulletin with New Ideas—Just Out! Bulletin F1. Complete engineering and application data. Send for it!

STOCKED BY LEADING STEEL WAREHOUSES

THE RECORD REPORTS

(*Continued from page 192*)

planned in connection with the 52nd annual convention of the American Hospital Association at Atlantic City Sept. 18–21.

Applications may be obtained by registered architects from: American Hospital Association, 18 E. Division, Chicago, Ill ; attention: George Bugbee.

Any hospital contracted for erection in the United States, its territories and possessions and Canada, since Jan. 1, 1945, is eligible for entry.

• The Village Art Center, long known for its art exhibits in Greenwich Village, has announced that it will present this fall its first exhibit on architecture, under the direction of Edgar Tafel, architect.

The contents of the exhibition, open to any architect who lives or works in the Village or its environs, will be determined wholly by the exhibitors, subject only to limitations of space. The individual architect may submit his work as he would like to have it shown; presentation may be from preliminary sketches to finished working drawings, with models or photographs. The announcement invites everything from "dream projects" to finished buildings.

Further information is available from Edgar Tafel, Village Art Center, in care of RoKo Gallery, 51 Greenwich Ave., New York 11, N. Y.

• Now available is the new catalog of the Department of Circulating Exhibitions of the Museum of Modern Art, 11 W. 53rd St., New York, N. Y. The 1950–51 program includes a wide variety of exhibitions of original works of art, photographic enlargements and color reproductions. Also offered are teaching portfolios and slide talks for rental or sale to smaller museums, universities and schools at prices well below the actual cost. The catalog, with detailed descriptions of the exhibitions, can be obtained from the Museum on request.

AT THE COLLEGES

New Department of Design for School of Fine Arts at Yale

Establishment of a new Department of Design and appointment of Josef Albers as its chairman have been an-

(*Continued on page 196*)

Sher-Lynn Shop, Wilmington, N. C.

1

A COMPLETE "PACKAGE" . . . 12 standard, and 4 *free-standing*, designs are available to fill almost any requirement. Pitteo Checking Floor Hinge, moldings for transom glass, supports for sidelights, strikes for locks, sockets for bolts — *everything* reaches the job complete for quick, easy installation.

2

RUGGED, PRECISION-FABRICATED frame. Expert craftsmen use special checking gauges to assure the accuracy of all dimensions. Frame is built of special shapes and heavy extruded aluminum, reinforced with steel channel and tie rods.

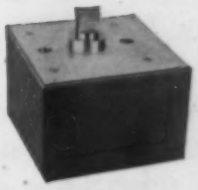
There's less trouble and worry with

"the doorway that has everything!"

With Pittsburgh Doorways, you're freed of troublesome, time-consuming calculations. You don't have to worry about setting and fitting. There's nothing to assemble. No holes to drill.

When you order a Pittsburgh Doorway, everything reaches the job complete in one "package." You simply unpack the frame, bolt it into the building opening. Then you hang the sturdy Herculite Doors, for whose strength the frames have been especially engineered.

Why not get *full* details by filling in and returning the convenient coupon—*now?* There's no obligation on your part, of course.



3

THIS HINGE is an engineering marvel. Only 6¼" x 6¼", the Pitteo Checking Floor Hinge is unique. Among its notable characteristics are its positive door-speed control, separate checking control, built-in hold-open feature. And it's sealed in oil for life.

Pittsburgh Plate Glass Company
2163-0 Grant Building, Pittsburgh 19, Pa.

Without obligation on my part, please send me a FREE copy of your booklet on Pittsburgh Doorways.

Name.....

Address.....

City.....State.....

Pittsburgh

DOORWAYS

PPG

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

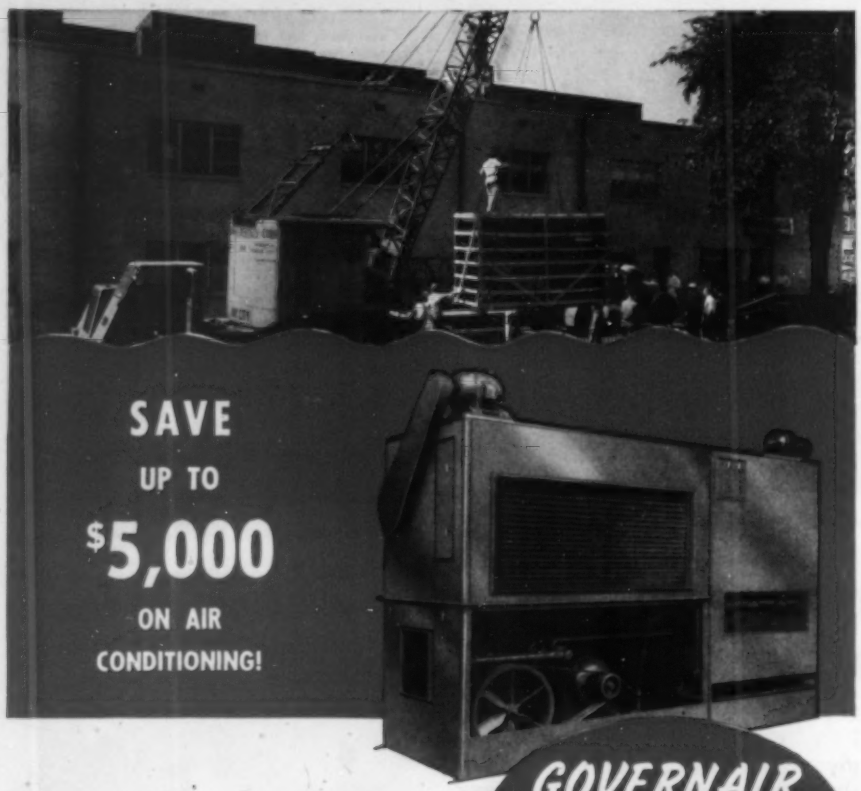
PITTSBURGH PLATE GLASS COMPANY

(*Continued from page 194*)

nounced by Prof. Charles H. Sawyer, director of the Division of the Arts and Dean of the School of Fine Arts at Yale.

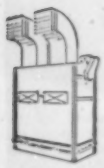
The new department will administer a revised professional curriculum in painting, sculpture and the graphic arts. It will be a four-year course, leading to Bachelor of Fine Arts degree, and will be closely allied with present courses of study of the Department of Architecture and the Department of Drama.

Professor Albers, the new departmental chairman, has been until recently head of the Department of Art at Black Mountain College, North Carolina. Before he came to this country in 1933, he taught for 10 years at the Bauhaus, the famous pioneer and experimental school and laboratory of the visual and structural arts in Germany. During the past year he has been visiting critic and instructor at the Cincinnati Art Academy, the Pratt Institute in Brooklyn and the Yale School of Fine Arts. He is teaching this summer at the summer session of Harvard's Graduate School of Design.



GOVERNAIR
COMPLETELY PACKAGED
AIR CONDITIONER

PAT. NO. 2,297,928


UNIT COOLERS

EVAPORATIVE CONDENSERS

AIR CONDITIONERS

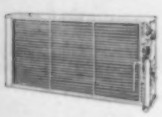
Save water! Save space! Save installation time and money! Save operating costs! Yes, install Governair and *save from $50 to $200 for each ton* of the completely packaged Governair unit designed to fit your needs!

Experience proves Governair can save you up to $5,000 on a 50-ton Governair unit that gives greater dependability and more "engineered efficiency" than ever before!

If you want the best—if you want the most economical and reliable air-conditioning unit on the market . . . CHOOSE GOVERNAIR and SAVE!

ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS

GOVERNAIR


BLAST COILS FOR HEATING & COOLING

Architecture Added to Stanford Art Curricula

Architecture will be offered as a major course at Stanford University beginning this Fall.

Courses leading to bachelor and master degrees will give professional training in architecture. The courses will be offered by the Art Department, which will become the Department of Art and Architecture.

Students will be taught by current Art Department faculty members, with professional architects and architectural engineers serving as visiting professors. Virgil Thompson, associate professor of architecture, will coordinate the program.

The undergraduate program during the first two years will include basic courses in art, architecture, mathematics and engineering, in addition to regular lower division requirements in the humanities, natural and social sciences.

In the third and fourth years the student will take courses in house, interior and landscape design, to teach him the relationship between structural materials and technology in relation to site, climate and human needs for the structure.

Two additional years of study will be required for the master's degree. The student will complete a flexible program of study designed to give him a strong engineering and technological background. During the second year of graduate work the emphasis will be placed on architecture's part in regional and city planning. The student will also spend three months as an apprentice under a registered architect before he receives his M.A. degree.

George Fred Keck Receives Lawrence Honorary Degree

Chicago Architect George Fred Keck received an honorary Doctor of Fine Arts degree at the 101st commencement of Lawrence College, Appleton, Wis.

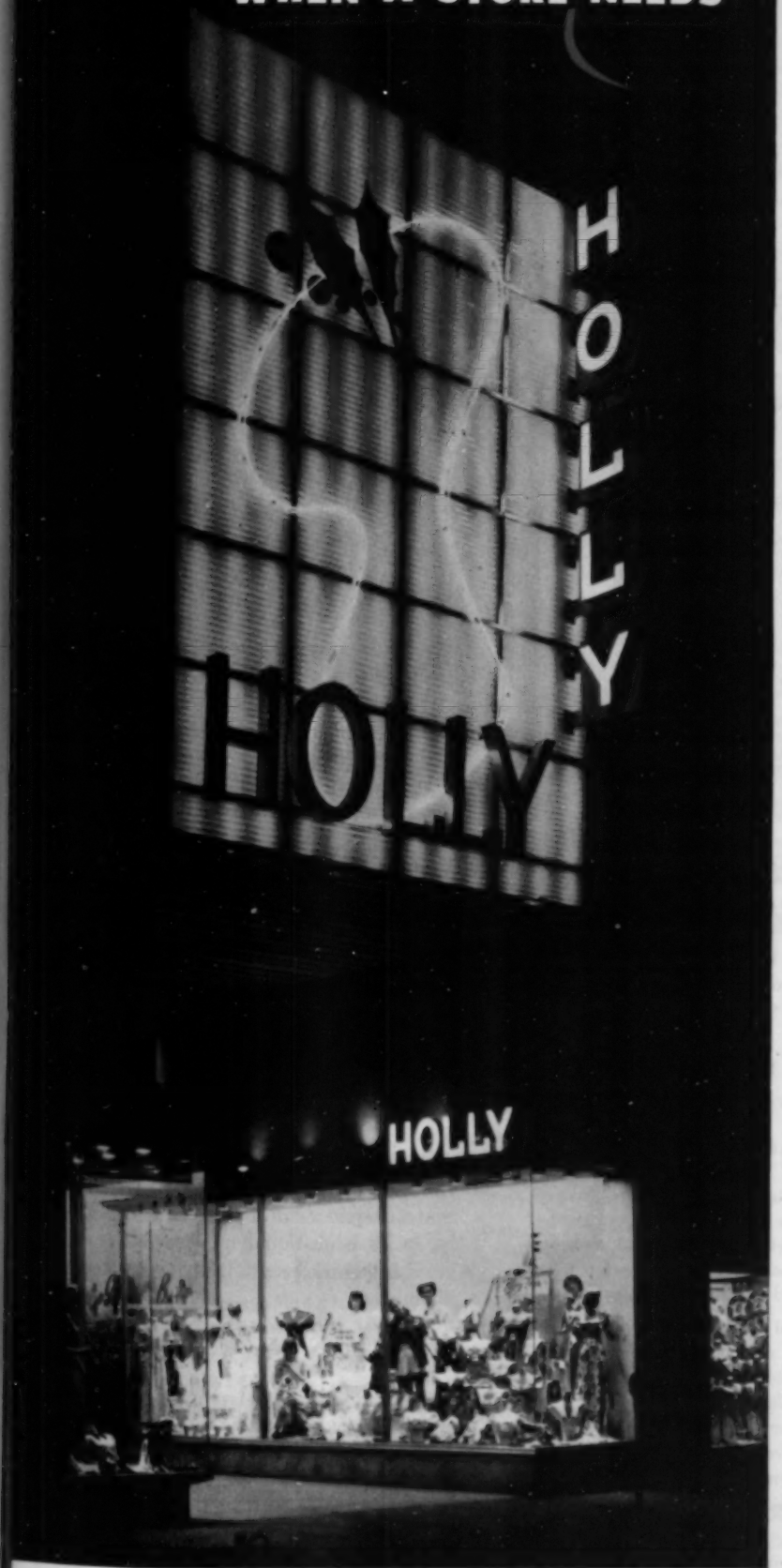
The citation, by Nathan M. Pusey, president of the college, read as follows:

"People contend about the relative value of 'traditional' and 'modern' art, frequently disputing about words rather than things. Theirs is a quixotic pastime, for it is not styles in this sense

(*Continued on page 198*)

WHEN A STORE NEEDS

Personality...



Designed by Morris Lapidus of New York, this 20-by-25-foot luminous store-front in Baton Rouge, La., was created by backlighting large panels of corrugated white translucent PLEXIGLAS. The interesting pattern is achieved by means of neon tubing behind the facade. Red and green PLEXIGLAS is used for holly leaves and berries mounted against the glowing acrylic background. Fabricated by Plastics Productions, Inc., New Orleans, La. Installed by Lamarr Advertising Agency, Baton Rouge, La.

PLEXIGLAS *is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.*

PLEXIGLAS
comes to the front

"Make *my* store-front different—distinctive," says your client. And PLEXIGLAS makes this tough assignment easy. Clear or in gem-like colors, smooth surfaced, corrugated or artistically patterned—adaptable PLEXIGLAS offers an almost limitless range of design possibilities.

Backlighted PLEXIGLAS gives you completely luminous letters and facades—rich with light and color, yet minus the confusion of visible light sources. PLEXIGLAS permits textured and three-dimensional effects—ranging from the delicate and graceful to the massive and dignified. And with all this, PLEXIGLAS saves on erection and maintenance costs, too.

Lightness and strength mean easy erection—with fewer, lighter supporting members. This sparkling *outdoor plastic* resists age, weather and hard blows. Indoors or outdoors, PLEXIGLAS represents a unique combination of beauty and durability.

WRITE FOR THIS NEW BOOKLET

For your personal file we've reserved a copy of our newest booklet, "PLEXIGLAS . . . for Modern Store Fronts." Use your business letterhead to tell us where to send it.

Canadian Distributor:
Crystal Glass & Plastics, Ltd.
54 Duke Street, Toronto, Ont.

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

(*Continued from page 196*)

which should come into question, but in every so-called style the presence or absence of imagination, intelligence, thoughtfulness, talent, taste and honesty.

"George Fred Keck, great architect, classic worker in a modern idiom, designer in 1933 of what proved indeed in essentials to be the House of Tomorrow, you have brought ideas, a willingness to experiment, freshness and integrity to everything you have done. Neither faddist nor imitator, but a courageous innovator, the art of sound building has been greatly improved by your efforts, and through your achievements in several midwestern states, architectural beauty has found enhanced and widened meaning. Wherefore we are happy today in honoring you to pay tribute to those creative human qualities which are the lifeblood of significant architecture."

Mr. Keck with Commencement speaker, Daniel Defenbacher, director of Walker Art Center in Minneapolis

Mr. Keck was presented for his degree by Charles M. Brooks Jr., chairman of the art department and professor of art and architecture.

Faculty Appointments

• Dr. John Ray Dunning, professor of Physics, scientific director of Columbia's great new Cyclotron at Irvington-on-Hudson, N. Y., and a pioneer in atomic research, has been appointed dean of the School of Engineering at Columbia University. Doctor Dunning succeeds Dean James K. Finch, long a national figure in engineering education, who retired June 30 upon reaching retirement age for Columbia administrative officers. Dean Finch will continue to teach, however, resuming the chair of the Renwick Professor of Civil Engineering, which he formerly held.

• Charles Eames was "visiting artist" on the staff of the University of Wisconsin Art Education Department from July 17–21.

• Prof. Hugo Leipziger-Pearce of the School of Architecture of the University of Texas is spending three months in Europe on an assignment for the United States Department of State as a specialist in its educational information program and as a consultant in housing and planning.

Scholarships

• The Institute of Design and Construction of Brooklyn has announced the establishment of a fund for scholarships in architecture available to graduates of local high schools attending any university in New York State.

The scholarships will be awarded on a competitive basis, according to an an-

(*Continued on page 200*)

NEW, REVOLUTIONARY.. VERSATILE

SOLAR AIR-FLO®

ENGINEERED ALL-WEATHER Windows

FOR DRAFTLESS VENTILATION

Louvered sections are placed at top, bottom or sides of stationary window pane, according to design requirements. Units may be used singly or in groupings.

STOCK SIZES FOR A WIDE VARIETY OF DESIGN

Adjustable baffle doors regulate circulation of fresh air, winter and summer. Screens concealed in *air-flo* section, may be removed from inside for cleaning. Solar Air-Flo units fit into all kinds of walls, masonry or wood . . . permit originality of design for all types of homes and buildings . . . provide weathertight insulation.

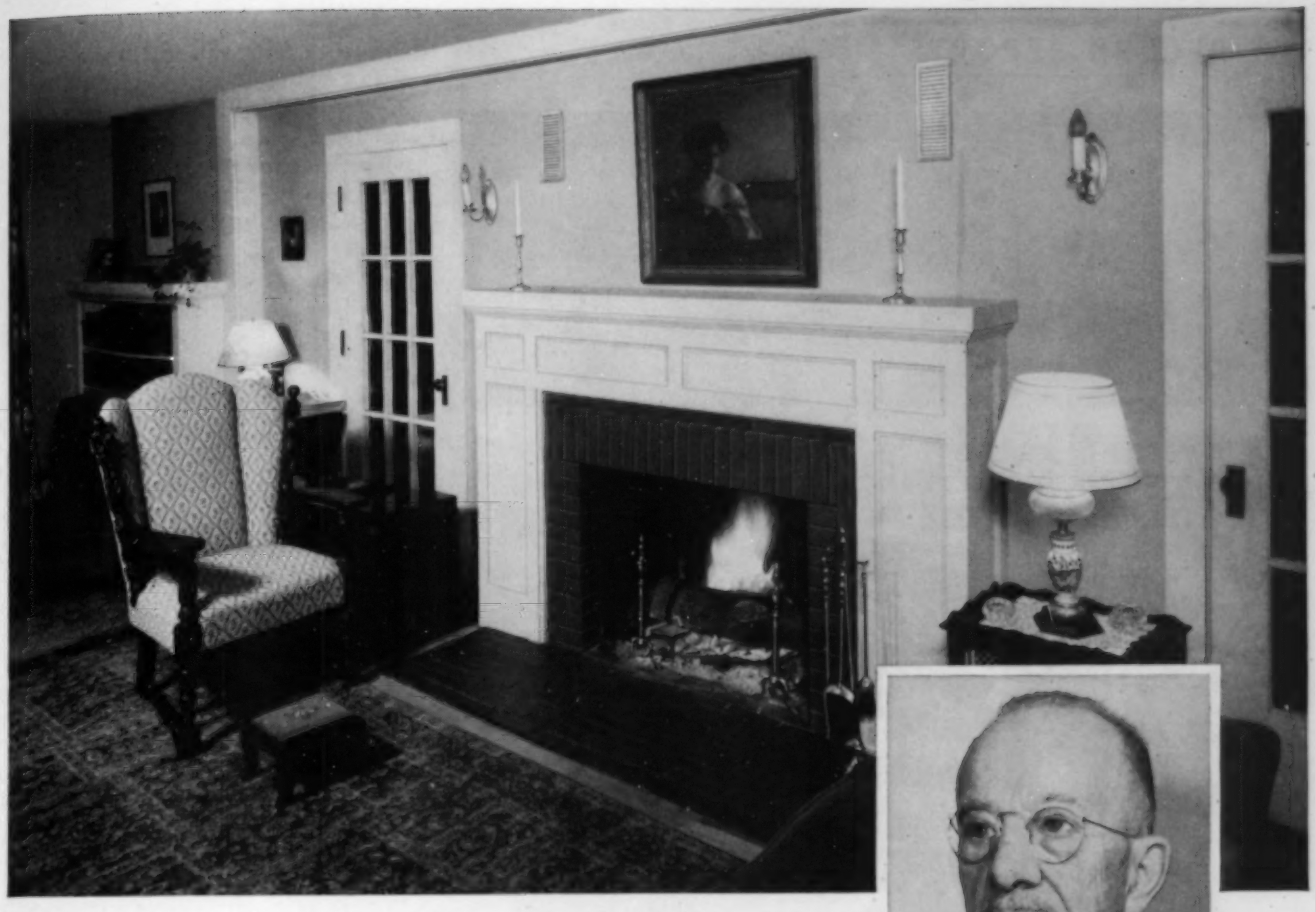
Solar Air-Flo windows allow the use of narrow mullions, come assembled with all exterior trim. Sill height and number of louvers may be varied to meet ventilation requirements. No precision work or special tools are needed for installation. Frames and sectional parts are made of either treated wood or extruded aluminum, as desired.

Beautiful Solar Air-Flo windows are in keeping with the modern trend . . . give individuality and distinction to exteriors, lend charm and an air of spaciousness to interiors. WRITE NOW for *free* descriptive literature and specification data, without obligation.

SOLAR AIR-FLO, INC.
DEPARTMENT 804, ELKHART, INDIANA
Send free literature on Solar Air-Flo windows.
I am ☐ Architect ☐ Dealer ☐ Contractor.
Name_____
Firm_____
Address_____ Zone_____
City_____ State_____

SOLAR AIR-FLO, INC.
ELKHART, INDIANA

MAIL COUPON NOW!



"Heatilator* fireplace saved time and cost my client no more than an ordinary fireplace!"

says: **HARRY F. HUDSON**
prominent Buffalo Architect

YOU can be sure of a smokeless, trouble-free fireplace by using a Heatilator Fireplace unit, around which any kind of fireplace can be designed. Even inexperienced masons can't go wrong because the Heatilator unit provides all the vital fireplace parts in one compact form. No extra parts to buy or build.

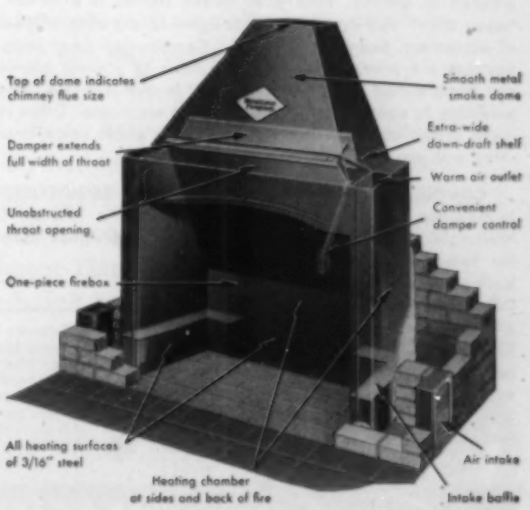
Costs little, if any, more than ordinary fireplace

The Heatilator unit adds little or nothing to fireplace cost because it reduces time and labor, and requires less materials. It draws in air from floor level, heats it, and circulates it to every corner of the room. It makes furnace operation unnecessary on cool Spring and Fall days. In mild climates, it is the only heating equipment needed. Ideal for camps, cabins and basement recreation rooms. Warm-air outlet grilles are easily placed to blend with any design.

Proved for 23 years

Give your clients the advantages of a genuine Heatilator Fireplace . . . perfected over 23 years ago, and now in successful use in hundreds of thousands of American homes. Write today for complete specifications and illustrations. Heatilator, Inc., 618 E. Brighton Ave., Syracuse 5, N. Y.

*Heatilator is the registered trade mark of Heatilator, Inc.


Top of dome indicates chimney flue size
Smooth metal smoke dome
Damper extends full width of throat
Extra-wide down-draft shelf
Warm air outlet
Unobstructed throat opening
Convenient damper control
One-piece firebox
All heating surfaces of 3/16" steel
Heating chamber at sides and back of fire
Air intake
Intake baffle

HEATILATOR *America's Leading* FIREPLACE

T.M. REG. U.S. PAT. OFF.

 (*Continued from page 198*)

Faculty and staff of Institute of Design and Construction, Brooklyn, at recent banquet

nouncement from Vito P. Battista, architect and director of the Institute. A jury of five leading New York City architects, to be announced later, will select the recipients.

To help raise funds for the scholarships, the Institute of Design and Construction will hold its first annual dinner on October 14, at the Towers Hotel in Brooklyn.

• The College of Architecture and Design of the University of Michigan announces the first award of the Harley, Ellington and Day Scholarship to Andrew J. Smith of Tecumseh, Mich. This scholarship, amounting to $1000, is awarded to an outstanding student about to enter his senior year of architectural design.

Solar Heating Symposium at M.I.T. Scheduled This Month

Massachusetts Institute of Technology's summer program in "Space Heating with Solar Energy" will be given Monday through Friday, Aug. 21–26.

The purpose of the course-symposium is to promote more discriminating application of the available engineering knowledge to the principles of architectural and engineering design.

Morning classroom sessions will be devoted to presentation of the fundamental background material of the course, while symposium sessions in the afternoon will feature presentation of papers by several leading investigators in the field of solar heating, followed by discussion periods. The M.I.T. solar house will be used for demonstration purposes in connection with the symposia.

It is expected that among those leading symposium sections will be: E. R. Ambrose, American Gas and Electric Service Corp.; Prof. L. B. Anderson, Dept. of Architecture, M.I.T.; Eugene Ayres, Gulf Research and Development Co.; Prof. F. W. Hutchinson, Dept. of Mechanical Engineering, U. of California; George Fred Keck, architect, Chicago; Dr. George Löf, director, Industrial Research Institute, Denver; George V. Parmelee, A.S.H.V.E. Research Laboratories; Dr. Paul A. Siple, climatologist, military geographer for U. S. Army General Staff; and Dr. Maria Telkes, Dept. of Metallurgy, M.I.T.

Professor Anderson and three other members of the M.I.T. faculty are directing the program. The others are Albert G. H. Dietz, associate professor

(*Continued on page 202*)

SPECIFY THE

Sedgwick

MULTI-STOP

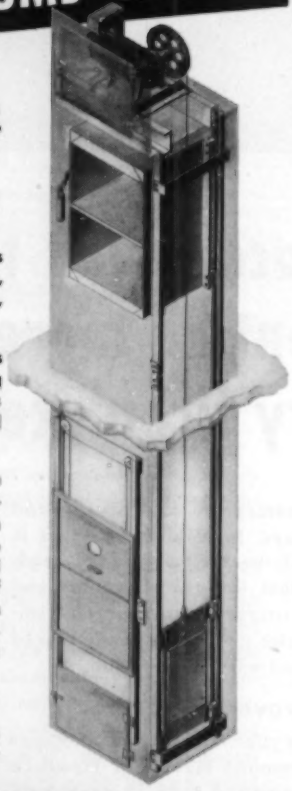
Electric Traction DUMB WAITER

for

SAFE · DEPENDABLE · ECONOMICAL

SERVICE

Where There Are 3 or More Landings to be Served



PROVED IN PERFORMANCE . . . by thousands of installations operating successfully from coast-to-coast — in hospitals, hotels, restaurants, clubs, libraries, schools, stores and other commercial, institutional and industrial buildings.

ENGINEERED FOR THE JOB . . . Sedgwick Multi-Stop Dumb Waiters embody the most advanced electrical and mechanical engineering features and are designed and built to meet the highest standards of dependable operation, low-cost maintenance and finished appearance.

AUTOMATICALLY CONTROLLED . . . with momentary pressure push buttons at each landing opening, the car can be called and dispatched as desired. Each push button station is provided with "open door" and "in use" signal lights to expedite efficient use of equipment. Sedgwick Type "SL" Combination Door Locks and Switches are provided for hoistway doors to prevent opening of any door, except that at which the car is at rest — thus the car is permitted to operate only when all doors are closed. Other refinements in the control system include reverse phase relay, overload relay and non-interference relay.

COMPLETE SEDGWICK LINE MEETS EVERY REQUIREMENT

In addition to the Sedgwick Multi-Stop Electric Traction Dumb Waiter, Sedgwick also builds the Roto-Waiter, designed especially for two-stop service — such as under-counter, back bar, or similar limited space installations. Other Sedgwick Dumb Waiters — including both electrically and manually operated types — are likewise available in a wide range of sizes and capacities. Steel towers and enclosures can be supplied where desirable. Specify, too, Sedgwick Steel Dumb Waiter Doors for complete satisfaction.

STANDARD DIMENSIONS						
Capacity in lbs.	200	200	300	300	500	500
Speed in F.P.M.	50	100	50	100	50	100
Car Width	24"	24"	30"	30"	36"	36"
Car Depth	24"	24"	30"	30"	36"	36"
Car Height Inside	36"	36"	36"	36"	48"	48"
Clear Inside Hoistway Width	33"	33"	39"	39"	45"	45"
Clear Inside Hoistway Depth	29"	29"	35"	35"	41"	41"

Sedgwick MACHINE WORKS

142 West 15th Street, New York 11, N. Y.

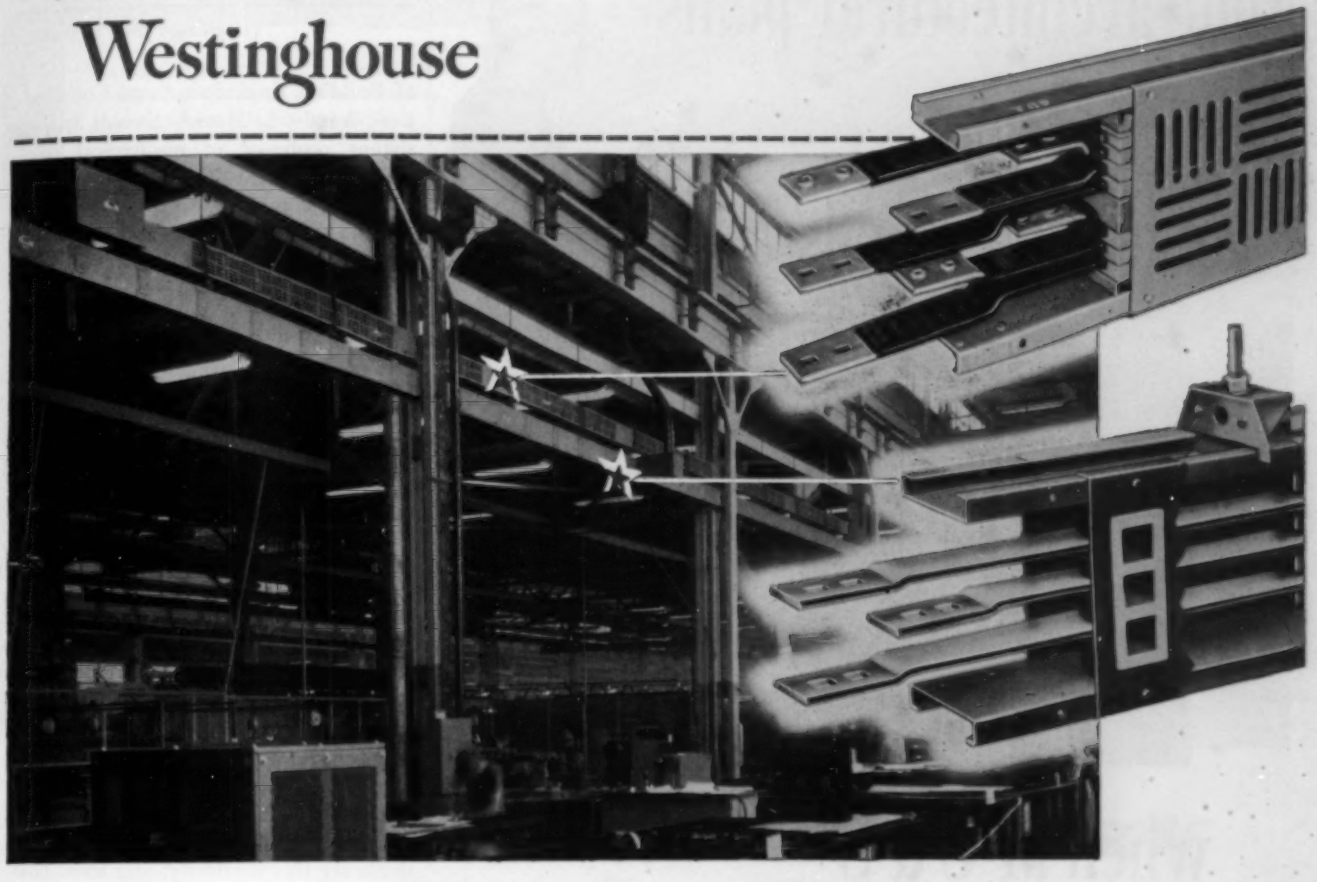
ELEVATORS · DUMB WAITERS · RESIDENCE ELEVATORS · STAIR-TRAVELORS

ROTO-WAITERS · SIDEWALK ELEVATORS · FREIGHT ELEVATORS · DUMB WAITER DOORS

THE MAXIMUM IN SAFETY . . . THE ULTIMATE IN ECONOMY — SINCE 1893

YOU CAN BE **SURE**.. IF IT'S

Westinghouse



BUS DUCT—first for full secondary power

Much more carrying capacity can be packed into a smaller space with Bus Duct than with conduit and wire. It's not only compact and neat appearing but more flexible, too.

You need only to bolt each prefabricated section together. Operations can be expanded at any time without expensive rewiring . . . and with minimum time and labor costs. Power supply is always convenient to machines. Plug-in openings every 12 inches on alternate sides eliminate long cable runs. Installations can be made either horizontally or vertically.

Note the application above. Low Impedance Duct is used for long feeder lines where minimum voltage drop is important . . . Plug-in Duct is used for an area having a scattered load. Together, they represent an unbeatable combination, first for full secondary power.

Experienced Westinghouse Field Engineers are available to help you plan your secondary power distribution system. For full particulars, phone your nearby Westinghouse Representative or write for Bus Duct Booklet B-4271, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-30030

DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

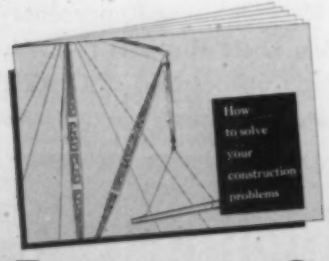
Westinghouse

BUS DUCT

Your architectural plans are in competent hands

when M-C & S enters the building picture!

In working closely with architects and engineers for scores of years, Merritt-Chapman & Scott long ago learned the importance of giving full attention to every detail. M-C & S's extensive experience in many construction fields is the best assurance that your assignment will be completed as designed, on time. All M-C & S project managers are performance-proved; facilities are unrivaled. And, as illustrated by the new brochure offered below, no project is "out-of-our-line."



New booklet presents a factual record of M-C & S's ability to solve the most challenging construction problems.

Your copy will be sent immediately upon request to Dept. AR.

MERRITT-CHAPMAN & SCOTT
CORPORATION

Founded in 1860 . . . now in our 90th year

GENERAL OFFICES
17 Battery Place, New York 4, N.Y.

CLEVELAND • BOSTON • NEW LONDON

THE RECORD REPORTS

(*Continued from page 200*)

of Building Engineering and Construction; August L. Hesselschwerdt Jr., assistant professor of mechanical engineering; and Hoyt C. Hottel, professor of Fuel Engineering.

Carnegie's New Course Tries Design Approach to English

A new system of teaching English to architecture students which will call on their "natural abilities in design" will be tried at Carnegie Institute of Technology beginning next month.

The new program, to be developed by English Instructor Earle R. Swank in conjunction with the architecture faculty, will be in line with the school's institute-wide Carnegie Plan of education.

Mr. Swank has explained that under the new system, the construction of sentences and paragraphs "will be attacked as design problems."

"The philosophy behind the design of a good building is fundamentally similar to that behind the construction of a good paragraph. We will try to help our students see this similarity, and learn how to take advantage of it."

In the new program, students will have morning English classes three times a week. In addition, Mr. Swank will sit in architecture design drafting rooms, where he will criticize and coach students in more effective expression of their ideas.

The new system will be made possible by a $2500 grant from the Wherrett Memorial Fund of the Pittsburgh Foundation.

The grant was given recently for a "demonstration project in architectural education," according to a letter from Stanton Belfour, director and secretary of the Foundation.

If the experiment is successful, it will be adopted as a permanent part of the Carnegie Architecture Department curriculum.

Prof. John Knox Shear, head of Carnegie's Architecture Department, said recently: "One of the aims of the Carnegie Plan is to help our students develop what it takes to give society professional service in their jobs and in civic and political life. How well a man can serve society depends in large measure on how well he can express himself. This experiment is an attempt to make good writing and speaking an integral part of architectural education."

Atlanta Paper Co. plant, Atlanta, Ga.
Architect—Moskowitz, Willner & Millkey.
Contractor—Henry B. Beck Co.

"We are 100% sold on all the advantages offered by Kaylo Roof Tile"

—ATLANTA PAPER CO.

The Atlanta Paper Company specified Kaylo Insulating Roof Tile for the 214,000-sq. ft. roof area of its new manufacturing plant. President Arthur L. Harris tells why:

"Kaylo Tile gives us a roof which insulates, won't burn or rot, is lightweight, yet strong.

"Of primary importance to us is the fact that our Kaylo Roof Deck resists water and moisture damage under the high humidity conditions which accompany our manufacturing operations.

"We are 100% sold on all the advantages offered by Kaylo Roof Tile."

Many industrial and commercial firms have found the answer to their roofing needs in Kaylo Insulating Roof Tile—providing a combination of advantages offered by no other single roof-deck material.

WHAT IS KAYLO ROOF TILE?

Kaylo Insulating Roof Tile is made of a lightweight, inorganic material—reinforced with welded wire mesh to provide structural strength more than adequate for typical roof loads.

Each 23-lb. tile is a dimensionally uniform 18"x36"—can be sawed, cut and nailed with standard tools.

Kaylo Tile is easily laid on steel sub-purlins or nailed to wood joists—on either pitched or flat roofs.

The Kaylo deck may then be covered with any conventional roofing material.

Send Coupon for Kaylo Roof Tile Sample and Literature

KAYLO®

INSULATING ROOF TILE

OWENS-ILLINOIS GLASS COMPANY
Kaylo Division • Toledo 1, Ohio

SALES OFFICES:
Atlanta • Boston • Buffalo • Chicago • Cincinnati • Dallas • Minneapolis
New York • Philadelphia • Pittsburgh • St. Louis • Toledo • Washington

OWENS-ILLINOIS GLASS COMPANY
Kaylo Division, Dept. N-22, Toledo 1, Ohio

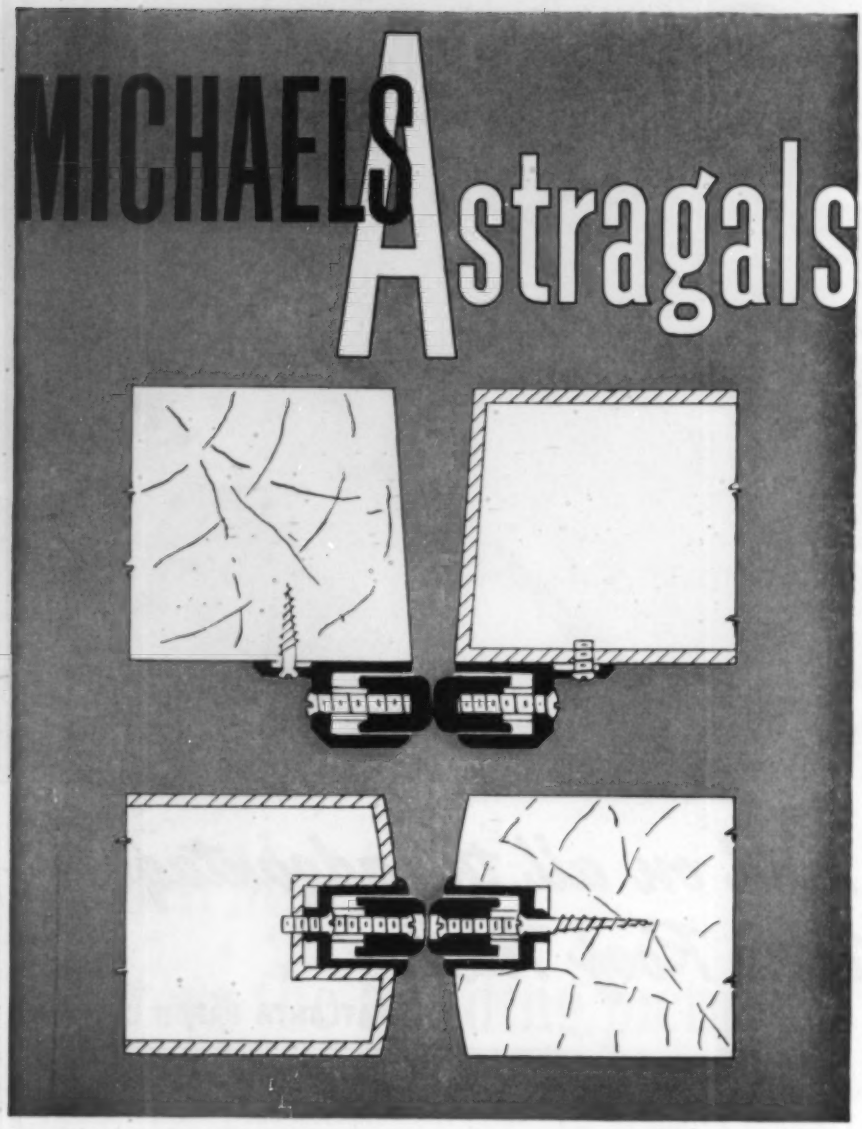
Gentlemen: Please send me a Kaylo Roof Tile sample and literature.

NAME.....

FIRM.....

ADDRESS.....

CITY.....STATE.....



Write today for information and prices on Michaels Adjustable Astragals. Made of extruded bronze, aluminum or nickel, they are simple, practical, rugged, easily installed and adjusted, and available in several styles. Two are shown above. Type A (top illustration) may be applied to either wood or hollow metal bevel doors. Also used as a stop bead. Type E (lower illustration) is for bullnose hollow metal or wood double doors. Both types may be used at the bottom of doors. Michaels Astragals help keep doors closed tightly . . . eliminate drafts and air currents . . . keep out dirt and dust. Write for details. Astragals are only one of many items in the Michaels line. So whatever building product you need, if it's made of metal, we may have it or can make it.

MICHAELS PRODUCTS

Bank Screens and Partitions
Welded Bronze Doors
Elevator Doors
Store Fronts
Lettering
Check Desks (standing and wall)
Lamp Standards
Marquises
Tablets and Signs
Name Plates
Astragals (adjustable)
Stair Railings (cast and wrought)
Wrought and Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Cast Thresholds
Extruded Thresholds
MI-CO Parking Meters
Museum Trophy Cases

The MICHAELS ARTS BRONZE CO., INC., 234 Scott St., Covington, Ky.

THE RECORD REPORTS

CANADA

(*Continued from page 16*)

and industrial construction, drops in commercial and engineering construction. The figures follow:

Residential: 1950 — $54,189,700; 1949, $48,167,600.

Commercial: 1950 — $29,042,100; 1949, $30,312,000.

Industrial: 1950 — $9,696,000; 1949, $4,109,000.

Engineering: 1950 — $19,036,300; 1949, $23,364,100.

Lumber Shortage Threatens Current House Building Boom

Many a prospective home owner, long sitting on the sidelines waiting for prices to come down, has grown tired of waiting and is buying a house. Add those other people who are building because they feel the end of rent controls is near — and you've got the present boom in house construction. It has sent housing loans skyrocketing to $31 million for May — an increase of 167 per cent over the same month last year.

However, there's a cloud that threatens this silver lining — a lumber shortage. Last March restrictions were removed, and lumber exports to the United States began to climb, supplying a tremendous American demand. Prices of some types of lumber have nearly doubled. Some predict that the situation will pass once the big summer building rush is over, but W. J. LeClair of Ottawa, secretary-manager of the Canadian Lumbermen's Association points out that the developing Canadian shortage is part of a world-wide lumber scarcity.

One thing is sure — if the tight supply continues, it will affect many proposed housing projects, and may slow up completions.

Labor Wage Demands Hold Promise of Higher Costs

Another round of wage increases is underway, in spite of employer determination to hold the line.

Recently Ottawa plumbers won an hourly rate increase, and more than 500 Toronto AFL plasterers secured two dollars an hour (up ten cents). AFL carpenters in Hamilton also won a ten cents

(*Continued on page 206*)

TUDOR PLAZA

Architect:
Backus, Crane & Love, Buffalo
Consultant:
Green & James, Buffalo
Contractor:
Boehm Construction Co., Inc., Buffalo
Steel Fabricator and Erector:
R. S. McMannus Steel Construction Co., Inc., Buffalo

Tudor Plaza, one of the newest additions to the quiet, tree-studded Delaware Avenue section of Buffalo, N. Y., stands 9 stories high, and has facilities for 68 families. The attractive, fire-retardant building is co-operatively owned, and its apartment units vary in size from 1½ to 9 rooms, including two spacious penthouse apartments. The structure also has a 65-car detached garage.

Tudor Plaza has an abundance of windows, and a neat-looking facing of rustic brick, beneath which stands a steel framework of Bethlehem Structural Shapes.

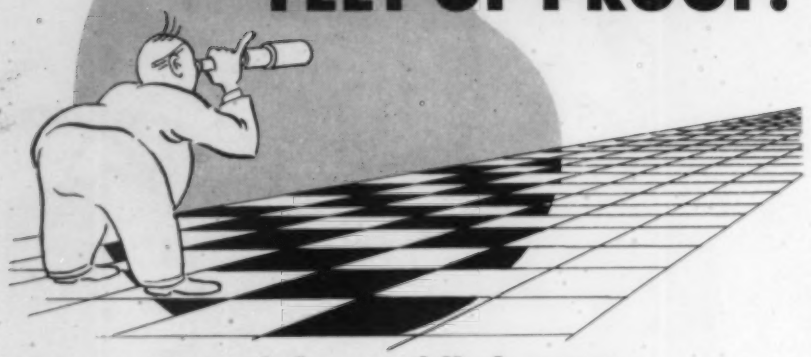
Bethlehem
STRUCTURAL SHAPES

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

Export Distributor: Bethlehem Steel Export Corporation

SEVEN MILLION FEET OF PROOF!



One of the world's largest retailers is using over seven million feet of WRIGHT RUBBER TILE in its own stores.

When one of the world's largest users of flooring buys over seven million feet of *any one kind* of flooring—that's important news for every architect, every retailer and every commercial building owner.

With over a billion dollars worth of purchases to make every year, this firm can't afford to be wrong. With extensive laboratory facilities and over a hundred large stores, they can find out more about flooring in a few months than smaller organizations could ever discover.

They know about how long it wears, how easy it is to maintain and how its beauty attracts shoppers. When you consider that they have bought over *seven million feet of* WRIGHTFLOR for use in their own stores, you know they are convinced that WRIGHTFLOR is an outstanding floor covering for commercial installations.

Find out about this superior floor covering. Send for a free sample, architects specifications, detailed information on WRIGHTFLOR, today.

WRIGHT MANUFACTURING COMPANY

5204 POST OAK ROAD • HOUSTON 5, TEXAS

WRIGHT RUBBER TILE

FLOORS OF DISTINCTION

2466

- WRIGHTEX — Soft Rubber Tile
- WRIGHTFLOR — Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

THE RECORD REPORTS

CANADA

(*Continued from page 204*)

an hour increase, plus extra vacation pay.

Building trades across Canada, watching the breakthroughs, are agitating for more money. Before a conciliation board in Toronto at present is a demand by the AFL bricklayers' union for 20 cents more an hour, bringing their rate to two dollars. Waiting their turn to appear are carpenters, cement finishers, reinforcing steel rodmen and hoisting engineers.

Plumbers in Toronto and painters in Regina are threatening strike action if their wage demands are not met.

Clearly, the stability in costs achieved by the construction industry in 1949 has been lost, and the present round of wage increases is bound to affect construction costs on a national scale.

Canadian Capital Moving to Toronto — A Model, That Is

Canada's capital is moving to Toronto. A model of the future Ottawa is to be shown visitors to this year's Canadian National Exhibition in Toronto.

The exhibit there is only one stop of a trans-Canada tour that has seen the 60-panel model set up in cities and towns across the country. According to Walter Bowker, in charge of the display, it has sparked new interest in town planning; and local officials study the model with their own town's problems in mind.

(*Continued on page 208*)

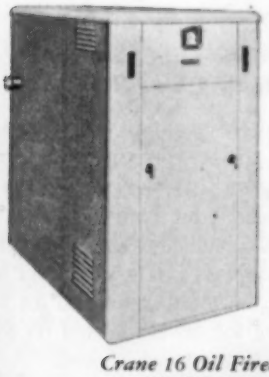
Royal Edward Laurentian Hospital, Montreal, will have special unit (photo below) for tuberculosis patients when funds are raised for building program. McDougall, Smith & Fleming, Architects

CRANE

baseboard radiant heating

Uniform room comfort, with Crane Baseboard Panels. Shown: Type "RC" Panel

for any home, new or remodeled



Crane 16 Oil Fired Boiler ideal for use with Crane Baseboard Panels

Even modest homes can now have the best in heating—uniform from floor to ceiling—with Crane Baseboard Panels. Ideal for modernizing. Complete planning freedom . . . valuable wall space and space below windows may be utilized.

Two types: "R" Panels for radiant heating; "RC", radiant and convection. Crane supplies the *complete heating system* . . . for hot water or steam . . . coal, coke, oil, or gas. Consult your Crane Branch or Crane Wholesaler.

CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5

PLUMBING AND HEATING • VALVES • FITTINGS • PIPE

cut fastening costs... finish work faster... with Ramset Fastening System

It takes less than a minute, from start to finish, to *"Ramset"* a steel fastener through steel or wood into steel, concrete, other hard building materials.

That's why the RAMSET FASTENING SYSTEM cuts costs from 50% to 90%. Time savings are equally valuable. A good workman can *"Ramset"* at least 40 fastenings per hour, as opposed to 3 or 4 per hour by ordinary methods.

The 65 sizes and types of RAMSET FASTENERS meet practically every usual or unusual requirement for strength and holding power. All are steel, plated to resist rust and corrosion.

RAMSET distributors and dealers are located nationwide, at your service to help you reduce fastening costs and finish your projects faster. Ask us for specific information.

STEMCO CORPORATION
12117 Berea Road • Cleveland 11, Ohio

Ramset FASTENING SYSTEM

SAVES TIME... CUTS COSTS ON WORK LIKE THIS:

Fastening:

Electrical equipment, lighting, services.
Heating, piping, air conditioning.
Sprinkler systems.
Metal or composition roofs and walls.
False and acoustical ceilings.
Framework, brackets or supports.
Metal doors, windows, partitions.
Furring strips for plaster.
Carpet nailing strips.

RAMSET FASTENING SYSTEM is applicable to every building structure, from a residence to a bridge.

Member of Producers' Council

ASK FOR DEMONSTRATION AND DETAILS!

Stemco Corporation, 12117 Berea Road, Cleveland 11, Ohio AR-8
Please give us details on RAMSET FASTENING SYSTEM.
Name _____
Company _____
Street _____
City _____ Zone _____ State _____

THE RECORD REPORTS

CANADA

(*Continued from page 206*)

British Columbia Joins in Federal-Provincial Housing

British Columbia is now officially teamed with Ottawa in the federal government housing scheme reported in previous issues of the RECORD.

Ottawa and British Columbia will split costs of housing projects with the exception of municipal services. As yet only North Vancouver, Surrey and Vancouver City have shown interest.

Any municipality in Canada wanting to take part in such a housing project will have to submit a detailed housing survey. In an attempt to create a standard survey form, University of Toronto researchers have chosen Brantford, Ont., as a test area, are checking it off door to door. The resulting picture of housing requirements in this "average" town will likely form the basis of future survey questionnaires.

3661 Engineers, 160 Architects Are June 1950 Crop in Canada

Graduated from Canadian universities in June were 3661 engineering students, 160 architects.

Engineering graduates were divided in specialties as follows: 872, electrical; 805, mechanical; and 758, civil engineering.

For some months past, employers have been in touch with National Employment Service officers at the universities, and job placement was well advanced by graduation day.

"Miracle Mile" Proposal Is Debated by Edmonton

That old tradition of Western friendliness took a beating recently when Edmonton City Council called a special meeting. Up for discussion was a scheme for a $25 million civic center, with areas for shopping, professional and business offices, an auditorium and an 1800-car parking lot, to be erected on four city blocks in the heart of town.

Already dubbed the "Miracle Mile," the plan is backed by the First New Amsterdam Corp. of New York.

The fur began to fly when L. E. Detwiler, on behalf of the corporation, requested a 99-year tax-free lease, in

(*Continued on page 210*)

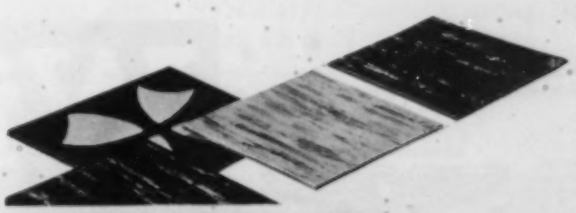
You get more freedom for design with low-cost KENTILE

MANY FLOORING MATERIALS limit your opportunities for varied design effects—and are not suitable for low-cost non-basement construction.

But Kentile meets your every need. It enables you to create "custom" flooring effects at low cost with decorative ThemeTile* and Kenserts. Kentile is ideal for radiant-heated homes . . . the *only* type of flooring possible in basementless houses because it can be laid on concrete in direct contact with the earth.

Save your clients money with economical, easy-to-install Kentile. Builders (and *their* clients) like its lustrous beauty. They know, too, that it means years of super-service and easy upkeep . . . because of the reliable Kentile name . . . because of national advertising campaigns in leading magazines.

Examples of ThemeTile are the circular inserts shown in the floor above and available in different color combinations. Other ThemeTile include such decorative designs as: Pitcher, Sprinkler, Spoon and Fork, Kettle, Frog, Ivy, Daisy. Factory-made, these inserts come pre-assembled and their installation involves no extra labor.

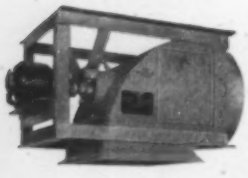


KENTILE®

The Asphalt Tile of Enduring Beauty

DAVID E. KENNEDY, INC., 58 Second Ave., Brooklyn 15, N. Y. • 350 Fifth Ave., New York 1, N. Y. • 705 Architects Bldg., 17th and Sansom St., Philadelphia 3, Pa. • 1211 NBC Bldg., Cleveland 14, Ohio • 225 Moore St., S.E., Atlanta 2, Ga. • Kansas City Merchandise Mart Inc., 2201-5 Grand Ave., Kansas City 8, Mo. • 1440 11th St., Denver 4, Colo. • 4532 South Kolin Ave., Chicago 32, Ill. • 1113 Vine St., Houston 1, Texas • 4501 Santa Fe Ave., Los Angeles 58, Calif. • 95 Market St., Oakland 4, Calif. • 452 Statler Bldg., Boston 16, Mass.

with Wing Draft Inducers



Wing Draft Inducers are suitable for use with oil, gas, stokered, or hand-fired boilers, moderate sized high pressure steam plants and industrial furnaces. Write today for a copy of Bulletin I-10.

The illustrations above show in striking fashion the difference in the appearance of the same building after removal of the unsightly stack. With Wing Draft Inducers it is no longer necessary to mar the appearance of otherwise well designed buildings with stacks of this type. By utilizing a low chimney, together with a Wing Draft Inducer, proper draft is assured—substantial savings in building costs are registered.

Adequate draft is assured regardless of weather conditions or high surrounding buildings. The trim lines of the architect's design can be retained intact . . . without sacrificing furnace efficiency . . . soot, smoke, and obnoxious gases are reduced or eliminated.

Wing Draft Inducers are available with manual controls, or they may be tied in with the controls of the combustion system for completely automatic operation. Their use assures positive, uniform, adequate draft for low pressure heating plants . . . thorough and complete combustion with high CO_2 content.

L. J. Wing Mfg. Co. 151 Vreeland Mills Road, Linden, N. J.

Factories: Newark, N. J. and Montreal, Canada

Wing

DRAFT INDUCERS

THE RECORD REPORTS

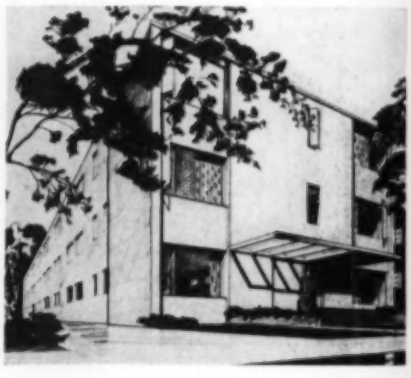
CANADA

(*Continued from page 208*)

exchange for $50,000 yearly ground rent and a share of the profits — if, as and when.

Some local businessmen think it's a great idea. Others opposing the plan claim that Edmonton stands to lose $99 million over the 99-year period. However, according to Detwiler, the city's income will be $300,000 a year for 40 years; then about $1 million a year for the final 59 years.

The City Council, unable to come to an agreement, has scheduled another meeting. In the meantime, Edmonton is doing a lot of adding, subtracting and arguing. It may take a miracle to get Edmonton to agree to "Miracle Mile."



Work is under way on three-story apartment building (photo of rendering above), Mimico, Ont. Brick facing will be used on structure, 39 ft by 139, containing 22 apartment suites. Architect is L. E. Venchiarutti of Toronto, Ontario

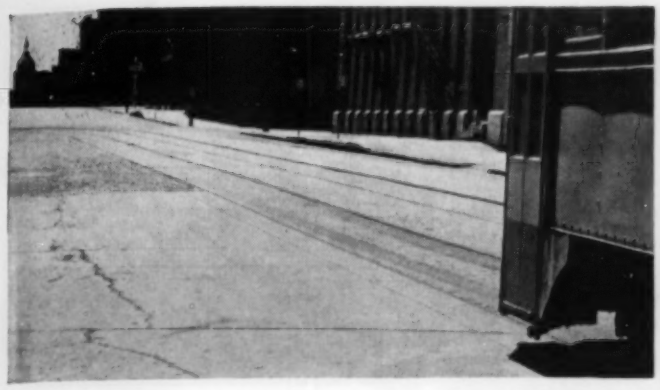
Lumbermen See Danger in Building Code Revisions

There are definite dangers to the lumber industry in the modernizing of the National Building Code in the opinion of *Timber of Canada*.

In an editorial, the magazine notes that in discussing changes to the Code, people may raise the old bogey of the fire hazard of wood construction. *Timber* explains that 75 per cent of all United States houses are frame, and there are proportionately fewer fires in frame houses than in those of masonry construction.

In the case of annexation, such cities as Ottawa and Toronto may impose

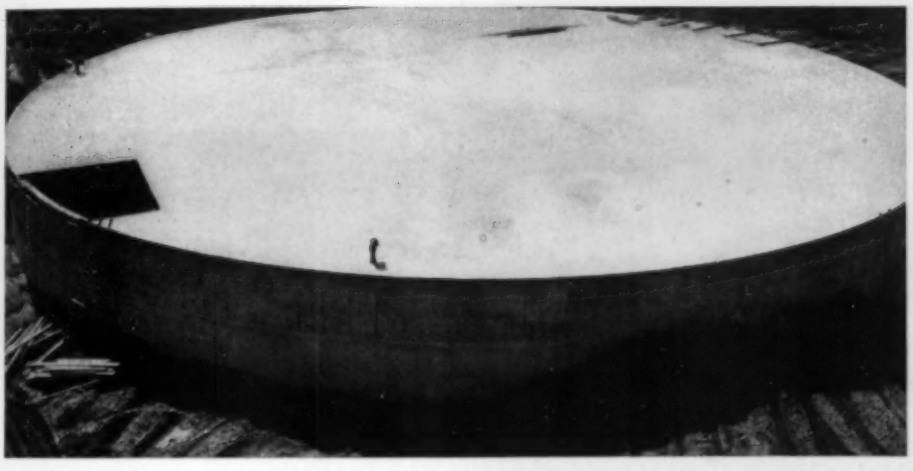
(*Continued on page 212*)



Ten Years Ago...

this test paving was laid in Minneapolis—the first commercial use of Atlas Duraplastic air-entraining cement. Badly scaled background section was made with regular cement. Foreground concrete was laid at the same time with Duraplastic cement. Here are both sections, photographed ten years later, after ten severe winters, heavy applications of de-icing salts and many freezing-thawing cycles—convincing proof of Duraplastic concrete's lasting durability. Longitudinal structural crack shows some raveling. Note perfect transverse joint.

Today... A typical report says: "DURAPLASTIC*... highly resistant to the effects of freezing and thawing"



7,000,000-gallon Water Reservoir, South Bend, Ind. Contractor: Thomas L. Hickey, Inc.; Duraplastic ready-mixed concrete, Kuert Concrete, Inc., both of South Bend.

The contractor on this 4000-cu. yd. concrete reservoir built exclusively with Altas Duraplastic air-entraining portland cement reports:

"...walls have a pleasing appearance with smooth texture and no 'honeycomb' spots or streaks. We particularly like Duraplastic for structural concrete, especially if it is exposed to the weather. Duraplastic concrete is highly resistant to the effects of freezing and thawing..."

This report is typical. For Atlas Duraplastic air-entraining portland cement has proved its advantages in a wide variety of structural and mass jobs; foundations, walls, columns, and floors. It's ideal for slip-form, gunite and other uses. It requires less mixing water for a given slump; gives a more plastic, uniform mix; places and finishes easily.

Atlas Duraplastic complies with ASTM and Federal Specifications, sells at the same price as regular cement, calls for no unusual changes in procedure.

Send for free new booklet, "A Decade of Atlas Duraplastic Air-Entraining Portland Cement." Write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

Offices: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

AR-D-107

ATLAS DURAPLASTIC TRADE MARK REG. U. A. C. CO.

AIR-ENTRAINING PORTLAND CEMENT

MAKES BETTER CONCRETE AT NO EXTRA COST

A UNIVERSAL ATLAS PRODUCT

NBC SUMMER SYMPHONY CONCERTS—*Sponsored by U.S. Steel Subsidiaries—Sunday Evenings—June to September*

CANADA (*Continued from page 210*)

new building regulations on neighboring communities — regulations detrimental to the lumber industry, the magazine warns, urging lumbermen to be alert to uphold their interests.

"Better Homes" Shows Seen In Several Major Centers

Vancouver, Edmonton, Winnipeg, Toronto and Montreal have all played host to full-scale "Better Homes" exhibitions in recent months.

All the shows displayed new materials and ideas to members of the building trade as well as a house-hungry public.

In Toronto, for example, 60,000 visitors studied a Central Mortgage & Housing Corp. exhibit on sound house construction and ABC's of the National Housing Act. Among the many time- and space-saving items that drew crowds were an accordion-pleated door, windows with screens and sash built in, brick with air core spaces, a radio-activated garage door which operates from a car transmitter, and pastel bathroom fixtures in the latest design.

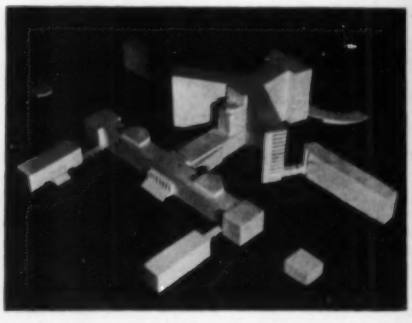
Something really exciting was a combination door, wardrobe, cupboard and dressing room which revolves at a touch.

Medical Center Proposed For Laval University Site

Pictured below is a model of proposed medical center to be erected for Laval University, at the new location near Quebec City.

Designed by Lucien Mainguy, architect, of Sillery, P. Q., the project involves construction of 10 units, all connected by underground passageways.

The buildings will include the Faculty of Medicine, an analysis and research laboratory, university hospital, convalescent home, nursing home, morgue, dental school, school of pharmacy, nuns' residence and a hospital entrance.



Model shows the 10 projected buildings of the proposed medical center for Laval University, at the new Quebec City site. First to be built will be School of Medicine. Lucien Mainguy, Architect

Completed cost is estimated at $19 million. The School of Medicine will be first to be built. It will be four stories in height, with a frontage of 525 ft. Next to be constructed will be the hospital, 12 stories high and providing for 800 beds. Construction will commence this year.

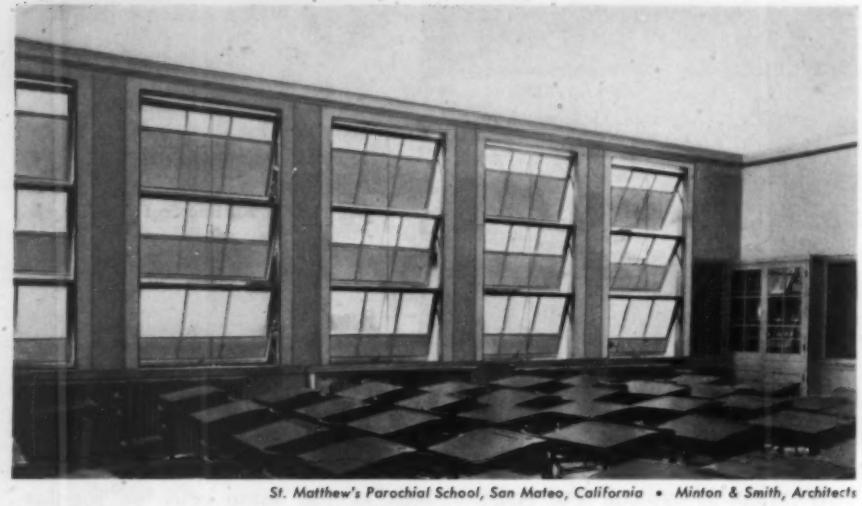
The School of Nursing will accommodate 300 nurses.

All construction will be reinforced concrete, except the hospital, which will be a combination of concrete and struc-

(*Continued on page 214*)

Dalmo

better control of VENTILATION
better control of LIGHT
AUTOMATIC MULTIPLE WINDOWS
Wood Projected Awning Type



St. Matthew's Parochial School, San Mateo, California • Minton & Smith, Architects

DALMO WOOD WINDOW HARDWARE
For the Nation's Schools

Dalmo Windows give full control of ventilation from 1% to 100% of the window opening. The angle of the open sash directs air currents upwards, eliminating drafts. The air diffuses from the ceiling and circulates evenly through the room. The open sash sheds rain, deflects wind and allows controlled ventilation under all weather conditions.

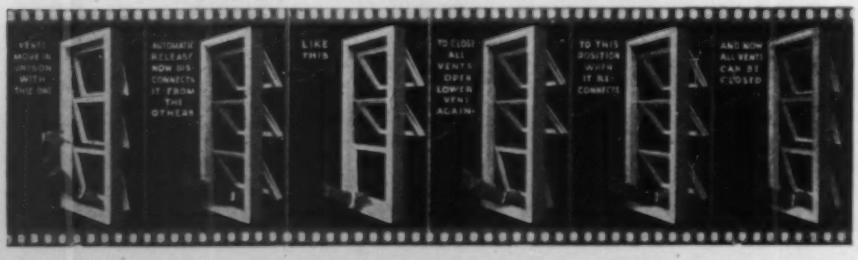
Dalmo Windows allow the use of venetian blinds or ordinary shades. The sash can be operated without disturbing blind or shade. Ordinary shades may be attached to the sash itself to control daylight illumination and give uniform light distribution without interfering with ventilation.

see our CATALOG in SWEET'S FILE

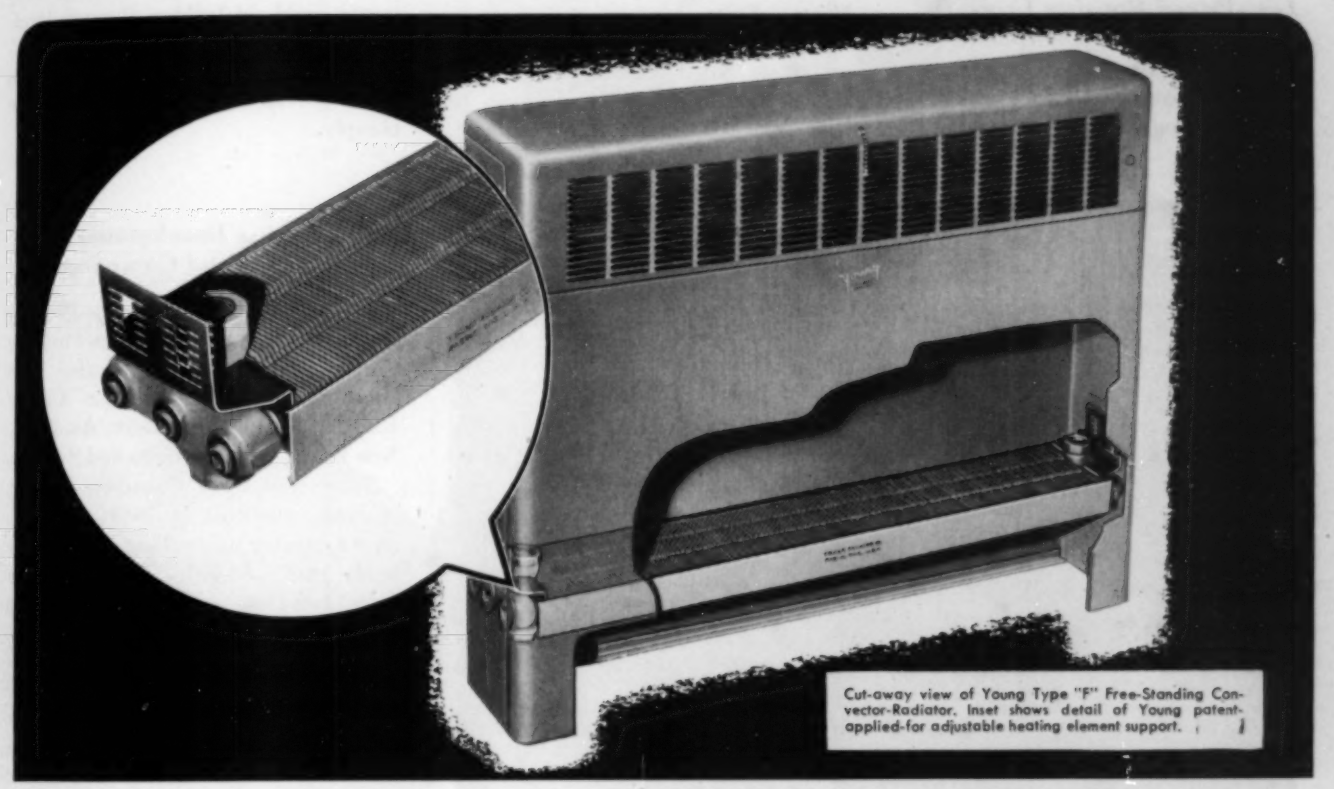
DALMO Continental Inc.

1304 Wilshire Boulevard, Los Angeles 17, California
Eastern Sales Office: Thorntown, Indiana

Movie showing operation of Dalmo Automatic Multiple Awning Type Window



Save on Installation Costs with YOUNG CONVECTOR-RADIATORS



Cut-away view of Young Type "F" Free-Standing Convector-Radiator. Inset shows detail of Young patent-applied-for adjustable heating element support.

Once again Young Engineering saves you money. A new heating element support cuts installation time and permits quick pitching adjustments. Its rigidity permits shipping core in position ... another time saver. An additional Young innovation, unit packaging, also speeds handling on the job. Each sturdy carton is clearly marked for quick identification and protects units in handling. The Young Convector-Radiator Line includes a style and size for any hot water and two-pipe steam system. Mail the coupon below for further helpful information.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Young Quality
T. M. Reg. U. S. Pat. Off.

Heating, Cooling, and Air Conditioning Products for Home and Industry.

YOUNG RADIATOR COMPANY
DEPT. 610-H, RACINE, WISCONSIN

Plants at Racine, Wisconsin and Mattoon, Illinois
Sales and Engineering Offices in All Principal Cities

LEARN HOW YOUNG CONVECTOR-RADIATORS CAN CUT CORNERS ON HEATING BUDGETS

YOUNG RADIATOR COMPANY
Dept. 610-H
Racine, Wisconsin

Rush me full details about the Young Convector-Radiator Line, without obligation.

Name_____

Address_____

City_____ Zone____ State_____

CANADA (*Continued from page 212*)

tural steel. Walls will be limestone, and steam heating will be provided from central heating plant (not visible in photo).

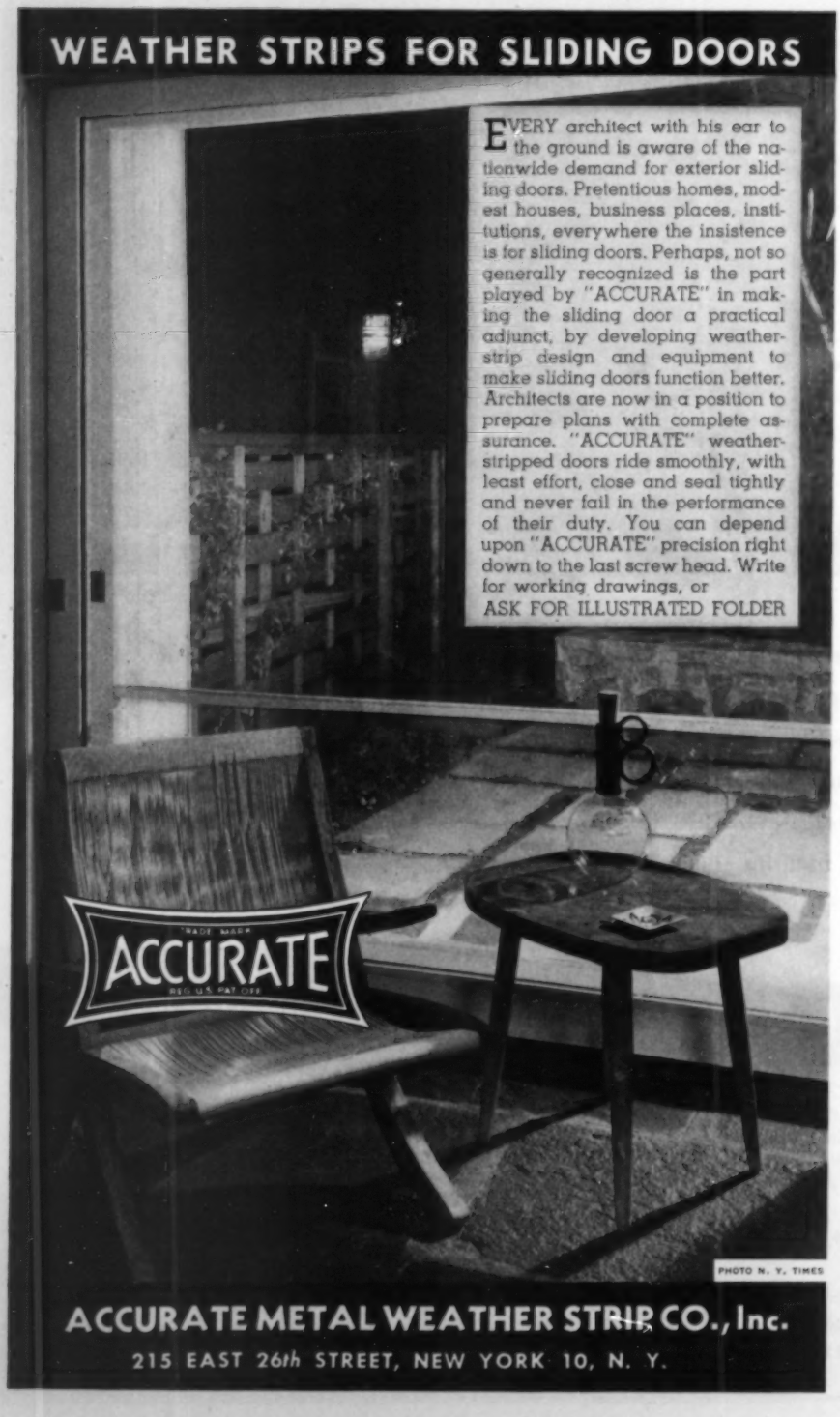
Low-Priced Housing Urged to Counter Public Competition

Builders must build a cheap, well-constructed house — or face a growing demand for public housing.

So warned George Prudham, M.P. for Edmonton West and a building contractor, in a talk before the annual meeting of the Ontario branch, National Association of Master Plumbers and Heating Contractors.

Methods will have to be streamlined and costs pared, Mr. Prudham said. Biggest hurdle to cheaper housing, he believes, is the scarcity of serviced land, which is pushing prices of available property to new highs.

To bring ownership within reach of the lower-income group, Mr. Prudham feels that federal and provincial governments could aid builders through land-assembly deals which would be self-liquidating and profitable — and which would provide serviced land much more cheaply.


WEATHER STRIPS FOR SLIDING DOORS
EVERY architect with his ear to the ground is aware of the nationwide demand for exterior sliding doors. Pretentious homes, modest houses, business places, institutions, everywhere the insistence is for sliding doors. Perhaps, not so generally recognized is the part played by "ACCURATE" in making the sliding door a practical adjunct, by developing weather-strip design and equipment to make sliding doors function better. Architects are now in a position to prepare plans with complete assurance. "ACCURATE" weather-stripped doors ride smoothly, with least effort, close and seal tightly and never fail in the performance of their duty. You can depend upon "ACCURATE" precision right down to the last screw head. Write for working drawings, or
ASK FOR ILLUSTRATED FOLDER
TRADE MARK
ACCURATE
REG. U.S. PAT. OFF.
PHOTO N. Y. TIMES
ACCURATE METAL WEATHER STRIP CO., Inc.
215 EAST 26th STREET, NEW YORK 10, N. Y.

1949 Housing Developments Here and Abroad Compared

The latest issue of *Housing Progress Abroad*, a Central Mortgage & Housing Corp. publication, surveys the 1949 housing developments in the United Kingdom, the United States, Australia, New Zealand, South Africa and Sweden.

Three aspects of Canadian housing progress stood out in 1949: first, the record number of dwelling completions in the year — 91,000; second, the moderate decline in net family formation resulting from reduced immigration and fewer marriages; third, the leveling off of building costs, particularly in the materials prices sector.

In all three trends Canada has a parallel in the United States, where house-building activity in 1949 was at an all-time high with over a million new non-farm dwellings started during the year; marriages declined by 15 per cent from 1948 to 1949; and costs appeared to be leveling off, with materials prices declining a little and wage rates of building workers rising by only a small amount.

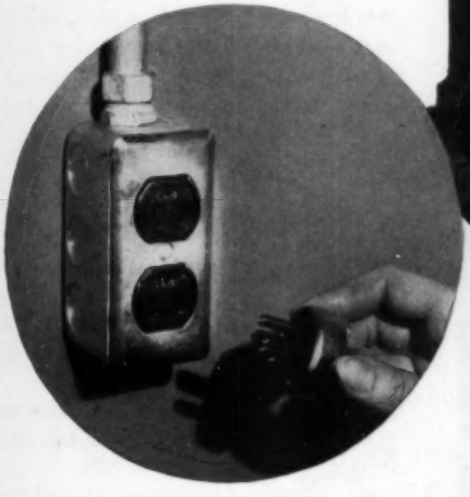
In Great Britain and Sweden the parallel holds with respect to declining net family formation and the stability of building costs in 1949; but owing to government action to reduce capital investment, housing completions in both Great Britain and Sweden were lower in 1949 than in 1948.

The situation was somewhat different in Australia and New Zealand. In these two countries as in Canada and the United States, house-building activity was at record levels in 1949. Although marriages were down somewhat in Australia and little changed in New Zealand, net family formation in both countries was on the increase because immigration was considerably higher in 1949 than in 1948. And costs continued to rise

(*Continued on page 216*)

NOW...added safety for every home

The combination of three prong plugs and receptacles, and ELECTRUNITE E.M.T.'s strong rigid steel walls provide grounded protection for life and property plus the value of a "pull-in pull-out" wiring system.



. . . with grounded raceways of rigid steel

ELECTRUNITE E.M.T. (Electrical Metallic Tubing)

In the home, as in the factory, the advantages of grounded rigid steel wiring raceways are unquestionable. Freedom from injurious stray current . . . protection against fires caused by short circuits . . . flexibility of "pull-in pull-out" wiring circuits . . . *all* mean greater value and safety to your clients.

Now, easy-to-install Republic ELECTRUNITE E.M.T. and appropriate outlets make it practical for you to specify *grounded rigid steel raceways* for *every* home regardless of size or cost.

Because lightweight, galvanized, threadless ELECTRUNITE E.M.T. eliminates old-fashioned thread-cutting, reduces worker fatigue, and is easier to install, it is setting new raceway cost standards for the electrical industry. For the complete story about this modern rigid steel raceway, write, wire or phone today!

SEE SWEET'S FILE

or write us for detailed information on these Republic Steel Building Products:

Pipe—Sheets—Roofing
Enduro Stainless Steel
Toncan Enameling Iron
Electrunite E.M.T.
Fretz-Moon Rigid Steel Conduit
Taylor Roofing Ternes
Berger Lockers, Bins, Shelving
Berger Cabinets for Kitchens
Truscon Steel Windows, Doors, Joists and other Building Products

REPUBLIC STEEL CORPORATION
STEEL AND TUBES DIVISION • CLEVELAND 8, OHIO
Export Department: Chrysler Building, New York 17, N.Y.

Republic
REPUBLIC STEEL
ELECTRUNITE E.M.T.

LIGHTWEIGHT THREADLESS RIGID STEEL RACEWAY

CANADA (*Continued from page 214*)

significantly, particularly costs of imported materials on which both Australia and New Zealand are heavily dependent.

In South Africa, a substantial decline in immigration occurred in 1949, contributing to a reduction in net family formation. There was some increase in housebuilding activity, while construction costs rose only moderately.

On the whole, the survey indicates that the housing boom continued in most parts of the world except in countries where, for reasons of foreign exchange conservation, housing activity was curtailed by government action. Reflecting the world improvement in the supply of building materials and building labor, construction costs in most countries leveled off or rose only moderately, a distinct change from the trend of earlier postwar years.

NEW
100 PARK AVENUE
TOWERING NEW YORK
BUSINESS BUILDING
Selects Mississippi
POLISHED WIRE GLASS
for Fire Protection

Kahn & Jacobs Architects — George A. Fuller Co. General Contractor — Pittsburgh Plate Glass Co. Glazing Contractor

20,000 sq. ft. of Polished Wire Glass by Mississippi are glazed in openings in exterior walls as a safeguard in this ultra-modern skyscraper.

Constant fire protection at minimum cost, combined with maximum daylight illumination, characterize Mississippi Wire Glass... the *original* solid wire glass upon which the Underwriter's Standard was based in 1899... the Standard *today* by which all others are judged.

For safer openings in corridor and room partitions, exterior walls, fire escapes and vertical shafts, specify the approved fire retardant that for over 50 years has been the choice of thousands of architects, engineers and builders everywhere.

Send for Catalog No. 50
See Sweet's Architectural File for further details. Samples on request.

This Seal Identifies Mississippi Wire Glass

MISSISSIPPI Glass COMPANY
SAINT LOUIS 7, MO.
NEW YORK • CHICAGO • FULLERTON, CAL.
WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Peeling Paint a Problem, Home Owners Are Warned

Home owners who insist on high-quality oil paints often get a rude shock, warns Robert F. Leggett. The paint may do a strip-tease in a season or two.

Mr. Leggett, director of the National Research Council's Division of Building Research, recently told a Parliamentary committee that modern paints are not as porous as the old ones used to be. They seal the outer surface and do not allow the water vapor that forms beneath them to escape. The vapor forms blisters and the blisters peel off.

This paint problem is only one matter being studied in connection with the revision of the National Building Code now underway.

Paint manufacturers agreed with Mr. Leggett, but one noted that he had overlooked some other pertinent factors. People now insist on self-washing paints which tend to blister. And lumber used in present construction is of poorer quality than that used in the past, and doesn't hold paint as well.

Aid Sent Disaster Areas

A check for $7370 has been sent on behalf of the Canadian Construction Association to Eb. Claydon, chairman of a construction industry fund set up in Winnipeg to aid flood victims.

In addition $2500 was forwarded to the burned-out cities of Rimouski and Cabano in Quebec.

Robert Drummond, president of the C.C.A., pledged continuing support to these worthy causes. Of the total sum disbursed, he explained, $6370 was the balance of the Construction Soldier Comforts Fund which was raised during the war years by the industry.

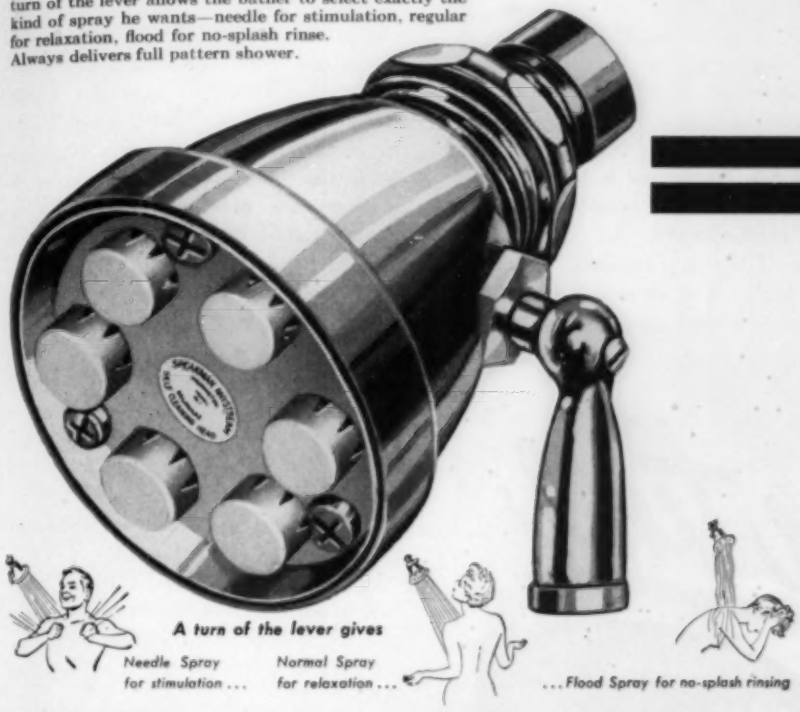
Thorncrest Village Pool Rates Follow Thermometer

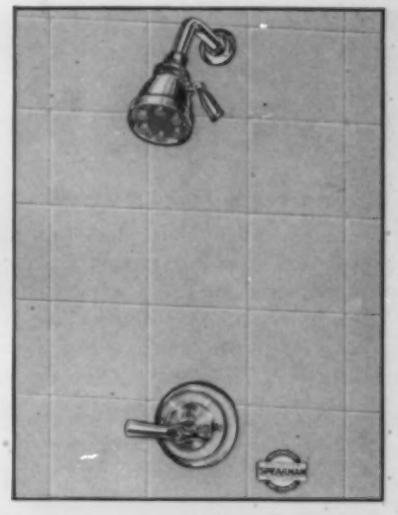
Thorncrest Village, Canada's unique planned community at Islington, Ont., has had a reputation for doing things the new and different way ever since it began.

Latest news is a novel rate scale for use of the local swimming pool. The pool is free to the 153 members — but at certain times guests must pay.

As the mercury soars, so do the rates. Between 70 and 80 degrees, the charge is 25 cents; from 80 to 90 it is 50 cents. And once the thermometer climbs over 90, there's no room for friends, sorry!

S-2250 Model 1 SPEAKMAN Anystream Self-Cleaning Shower Head.
America's most famous aid to better shower bathing. A turn of the lever allows the bather to select exactly the kind of spray he wants—needle for stimulation, regular for relaxation, flood for no-splash rinse. Always delivers full pattern shower.





S-1700 Complete SPEAKMAN Built-In Sentinel Shower.
Pipe size ½ inch. Combines the Sentinel Balanced Pressure Mixing Valve and the Anystream Shower Head to provide America's outstanding, modern shower bath. Other concealed and exposed models available for every type of installation.

SENTINEL-ANYSTREAM

The Shower that has no equal . . .

Together—or used independently—the Sentinel Balanced Pressure Mixing Valve and the Anystream Self-Cleaning Shower Head offer exclusive features not to be found in any other shower. Here are the exclusive features that make Speakman Sentinel-Anystream Showers outstanding:

THE ANYSTREAM SHOWER HEAD—

1. Anystream Shower Heads take care of more bathers per gallon of water. Users report water savings up to 50%. This is an important feature during periods of peak demand on hot water. Provides full-pattern shower even on low water pressure.
2. Type of spray—From stimulating, stinging needle spray, or relaxing, smooth normal spray, to non-splash flood spray for rinsing, the Anystream delivers what the user wants. A turn of the lever sets the spray as desired. And, when turned off, there's no annoying after-drip.
3. *Self-Cleaning—won't clog.* In flood position all dirt and sediment is immediately flushed out. Precision-built for long wear. Integral ball joint with concealed volume control (Model 1). Heads for use in public places may be supplied with Allen set screw to discourage malicious removal.

THE SPEAKMAN SENTINEL BALANCED PRESSURE MIXING VALVE

Here's the answer to the problem of what to do about fluctuating water pressure that causes sudden surges of steaming hot or icy cold water in the shower bath. With the Sentinel, the bather sets the temperature where he wants it—and the Speakman Sentinel Mixing Valve *holds* it there. Here are the outstanding features of this valve.

1. Holds discharge temperatures even.
2. Operation not affected by pressure variations in supply lines.
3. All wearing parts renewable from face of valve.
4. No thermostats, rockers or springs to get out of order—a simple f-l-o-a-t-i-n-g piston does the work. Minimum maintenance.

See SWEET'S Architectural File for condensed catalog, or write for complete information on these products.

In Our 81st Year

SPEAKMAN

SHOWERS AND FIXTURES

SPEAKMAN COMPANY, WILMINGTON, DELAWARE

(*Continued from page 157*)

corrugated steel or any other material can be nailed on.

Construction Features

Footings. Adjustable steel footings placed on top of the ground are used with both the steel and wood frames. The normal method of digging holes for posts or footings was considered unsatisfactory. The height of the footing is adjustable in 3/16-in. increments through a range of 3 in., since it is assumed that the sites will be leveled by bulldozers. If it is impossible to level the site this way, the upper tube section of the footing (see photo) can be separated from the lower tube and a wood post inserted between them cut to the proper length.

Frame. The frame consists of steel or wood bents, 8 ft on center, connected with purlins and girts. Bents are assembled in the field with wedge-pin connectors. This connector is a button-head bolt, slotted to receive a plate which is held in place with a small pin driven through the bolt and a diagonal slot in the plate. After the connector is in place, the plate is driven with a hammer, the diagonal slot providing the wedging action.

Steel and wood purlins and girts use hook fasteners to secure them to bents and to each other.

Diagonal bracing of the frame is accomplished with factory assembled, scissors type braces which are unfolded and hooked to the four corners of the area to be braced. A center cam action lever straightens out the brace, bringing the frame parts to a true rectangle.

The structure may be guyed at each bent to withstand higher winds than the specified design load. Guying also substantially increases the roof loading capacity.

Roof. Corrugated steel sheets are laid at 2-ft centers on purlins with a 1-in. space between them. A capping strip using a cam action fastener which clamps to purlins from the underside is placed over the joint (see photo bottom 157).

Walls and Floors. Each bay of the *Tropic Zone* wall consists of an upper shutter, a lower shutter and a fixed wall panel. Both the wall panel and the shutters are composed of metal sheets of the same profile as the roof sheets.

Metal wall sheets for the *Temperate Zone* are identical with the roof sheets. Wood window frames are shipped knocked down and are assembled between girts with wedge-pin connectors.

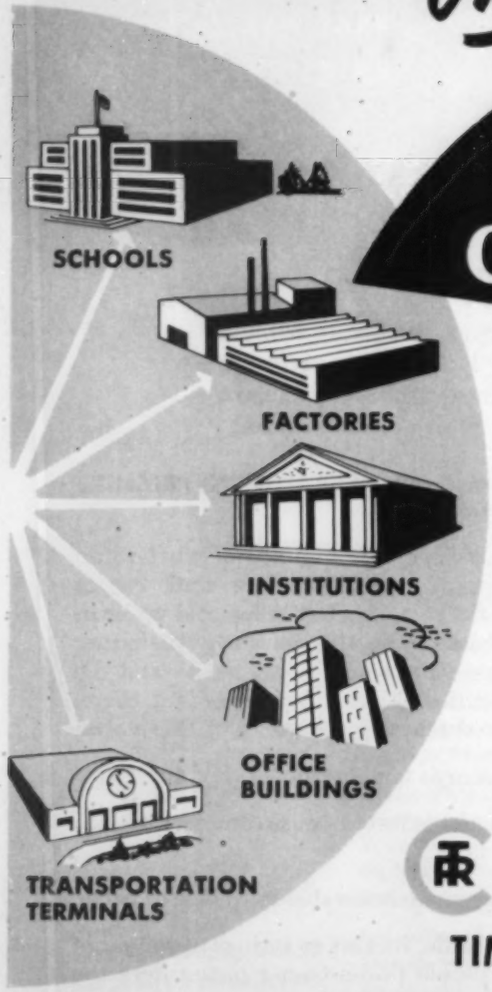
Interior walls and ceilings can be finished and insulated with 4 by 8 ft wood framed panels finished with hardboard. Ceiling panels are ½-in. rigid insulation board, with edges protected by a light metal channel.

Floor beams on 8 ft centers are dropped into slots in the footings. Floor panels are ½-in. plywood, 16 in. wide and 8 ft long with a steel Z joist riveted to one side; they may be insulated.

Frigid Zone floor, walls and ceiling are stressed skin plywood panels insulated with mineral wool. The entire enclosure is suspended inside the frame, avoiding problems of heat loss through frame members and to the ground. All panels are fastened to the frame with wedge type hooks. The weather tight joints used between panels are shown in lower drawing on page 157.

HOW TO KEEP A BUILDING *on time*

SPECIFY TIME CONTROL BY Cincinnati



Since 1896, The Cincinnati Time Recorder Company has pioneered in the development of time control and signaling equipment.

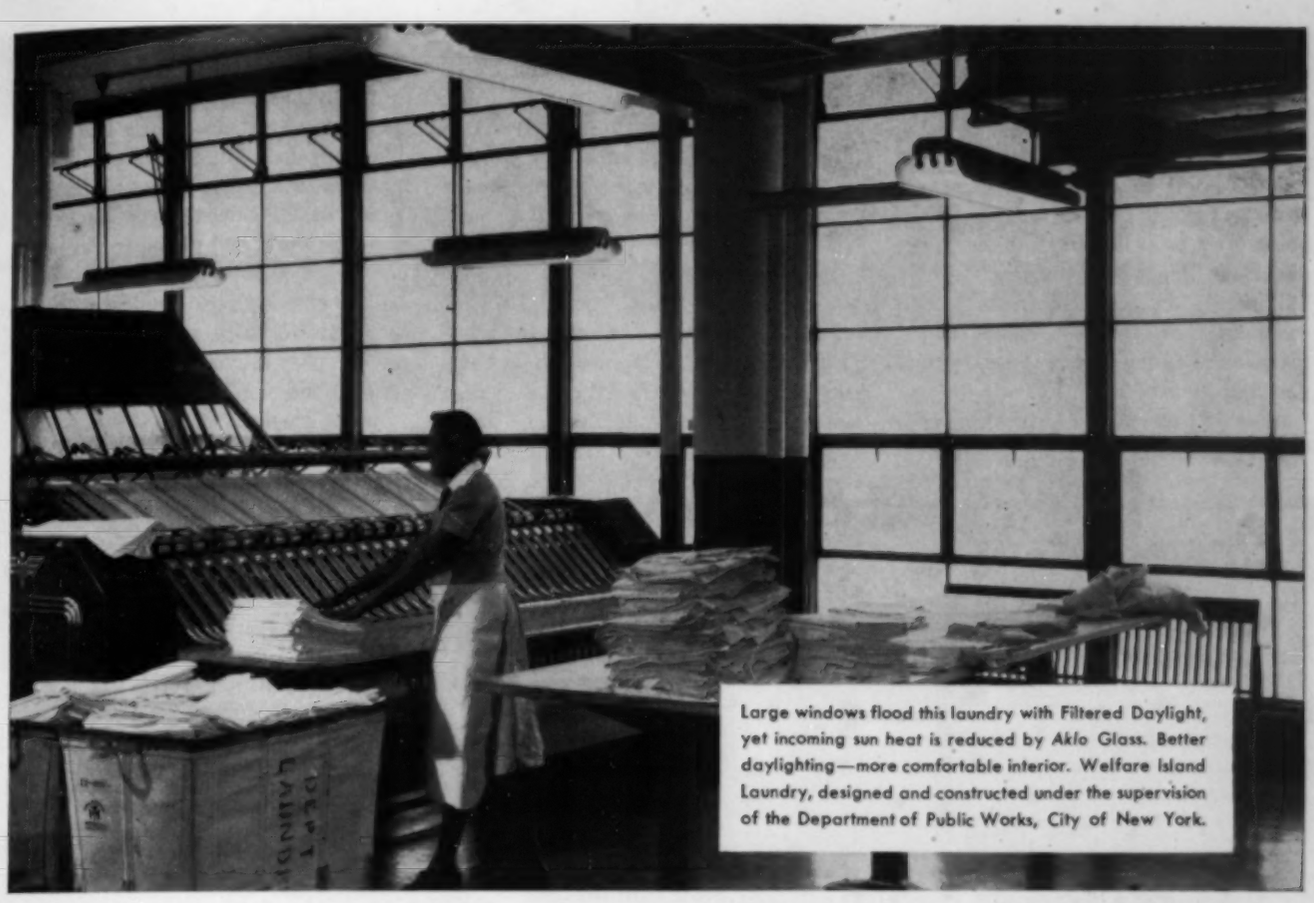
Today, whether your problem is time control for a single process or an entire building, **Cincinnati** offers a complete line of Master Control and Program Instruments — plus the services of skilled engineers to help you select the right equipment for the job.

We'll be pleased to send you complete information on Cincinnati time control equipment. Write Department AR-8.

THE CINCINNATI TIME RECORDER CO.

CINCINNATI 14, OHIO

Specify CTR to sound bells, buzzers, horns; maintain correct and uniform time on every clock and recorder; open or close electrical circuits at predetermined periods



Large windows flood this laundry with Filtered Daylight, yet incoming sun heat is reduced by *Aklo* Glass. Better daylighting—more comfortable interior. Welfare Island Laundry, designed and constructed under the supervision of the Department of Public Works, City of New York.

How FILTERED DAYLIGHT improves working conditions

Windows can do more for you than just bring in daylight. They can *filter* that daylight to give you the most desirable portions of the sun's visible rays. Plants all over the country are using Blue Ridge Frosted *Aklo** Glass for:

1. Better Seeing—This blue-green glass transmits that portion of the spectrum most restful to the eyes. Frosted *Aklo* Glass provides more uniformly diffused daylight, with subdued brightness. This means less eye fatigue, happier personnel, improved quality of work and reduced danger of accidents.

2. Greater Comfort—*Aklo* Glass absorbs a high majority of the heat-loaded infrared rays of the sun and reradiates much of this heat externally. Thus, interiors are cooler, workers are more comfortable.

3. Better Temperature Control—*Aklo's* reduction of sun heat permits more accurate control of indoor temperatures and humidities. It effectively reduces load on air-conditioning equipment.

Aklo is made by the Blue Ridge Glass Corporation of Kingsport, Tennessee, and sold by Libbey·Owens·Ford glass distributors. To see for yourself how Frosted *Aklo* Glass reduces glare and sun heat, ask your distributor for a Radiometer demonstration. *®

Free Book on Reduction of Sun Glare and Heat

Blue Ridge Sales Division
Libbey·Owens·Ford Glass Company
9085 Nicholas Building, Toledo 3, Ohio

Please send me a copy of your book on glare and heat reduction, "Filtered Daylight".

Name_____

Company_____

Address_____

BLUE RIDGE AKLO GLASS

Heat Absorbing • Glare Reducing • Figured and Wire Glass

(*Continued from page 160*)

it is desirable to use a blower rather than a propeller type of fan, since the noise of a propeller fan can be very disturbing to nearby tenants. Many buildings have been forced to quiet cooling tower fans with sound traps (at some loss in efficiency) to end their neighbors' complaints.

As with water tanks on the roofs of skyscrapers, many architects have decided to conceal the tower rather than show it. A cooling tower cannot be completely enclosed, however, since it requires outdoor air to operate. An arrangement of baffles must be designed so that the tower receives the required amount of air, while concealing the tower from public view.

Smaller buildings such as store groups, lesser public buildings, etc. which can afford a small loss of space, generally utilize cooling towers, or evaporative condensers depending on their refrigeration and other requirements. Where provision must be made for future air-conditioning, the most satisfactory solution is generally the installation of a large inside cooling tower, with sufficient capacity to carry the future load. The difference in cost between two differently sized cooling towers is not great compared to the fixed costs of ductwork, electrical work, and piping connections. For jobs where a small amount of air-conditioning is to be installed at first, a cooling tower may be specified which can be progressively added to by increasing the number of sections later.

An air washer is the most satisfactory method of conserving cooling water, in locations where a cooling tower of large capacity is required but the headroom is limited. Air washers are limited to quite large installations serving upwards of 40 tons of refrigeration or more.

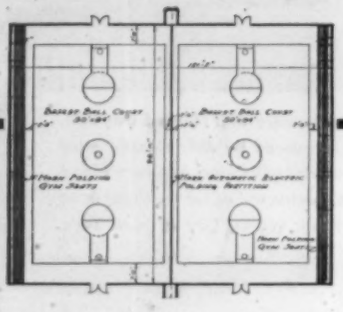
Whether to use an inside or an outside cooling tower depends on the economics of piping and ductwork, the loss of space versus the additional roof load.

When air-conditioning is to be installed in an existing building the problem is considerably more complicated. If a roof cooling tower is decided upon, the weight of the tower on existing columns and their footings must be considered. Piping may be difficult to run through areas leased to tenants, and appearance will not allow it to be run on the exterior of the building. If a cooling tower cannot be placed on the roof, indoor equipment will have to be the answer. The ductwork for the exhaust air from cooling towers or evaporative condensers should exhaust sufficiently away from tenant's windows so that no nuisance is created. For large installations, a duct should be constructed, if possible, to carry the exhaust well above the windows.

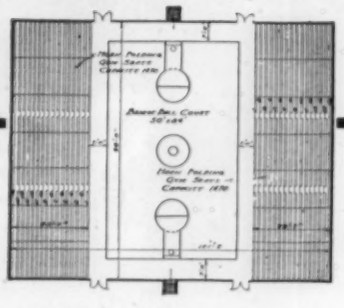
One of the toughest problems of air-conditioning with indoor equipment is how to run the ductwork to the exterior. If the equipment is quite large, the intake and exhaust ducts may require the sacrifice of whole windows. Otherwise, new holes in the side of the building may have to be cut to accommodate incoming and outgoing air. Smaller installations may have the ducts going out the top of a window.

When water conservation equipment must be added to refrigeration machinery which has been in service for a number of years, such as is now required in New York, the existing compressors and motors should be carefully checked for capacity. As pointed out previously, the addition of a cooling tower or an evaporative condenser reduces the efficiency of the cycle.

UTILIZE YOUR GYM SPACE WITH HORN



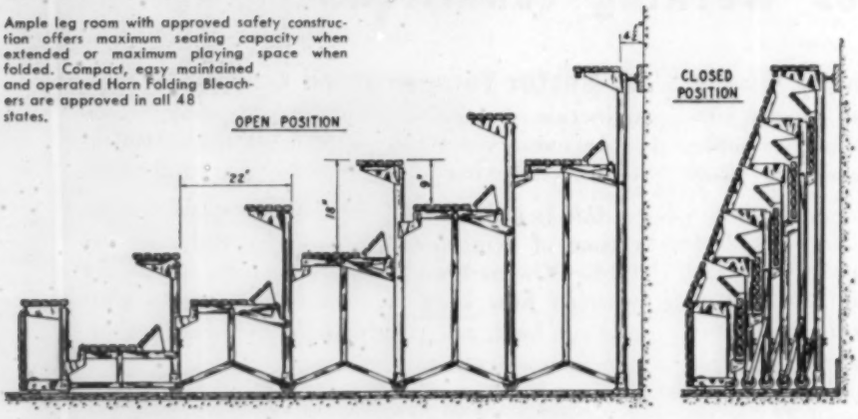
Two regulation basketball courts separated by a Horn Automatic Electric Folding Partition. Horn Folding Bleachers in folded position.



HORN FOLDING BLEACHERS extended increases the seating capacity for the BIG GAME! Horn Folding Bleachers will meet your requirements.

HORN FOLDING BLEACHERS

Ample leg room with approved safety construction offers maximum seating capacity when extended or maximum playing space when folded. Compact, easy maintained and operated Horn Folding Bleachers are approved in all 48 states.



ROWS	FLOOR SPACE IN USE	FLOOR SPACE *CLOSED	**HEIGHT	ROWS	FLOOR SPACE IN USE	FLOOR SPACE *CLOSED	**HEIGHT
3	4′ 9″	1′ 8¾″	3′ 0″	12	21′ 3″	4′ 3⅛″	9′ 9″
4	6′ 7″	2′ 0⅛″	3′ 9″	13	23′ 1″	4′ 6⅜″	10′ 6″
5	8′ 5″	2′ 3⅜″	4′ 6″	14	24′ 11″	4′ 9⅞″	11′ 3″
6	10′ 3″	2′ 6⅝″	5′ 3″	15	26′ 9″	5′ 1¼″	12′ 0″
7	12′ 1″	2′ 10¼″	6′ 0″	16	28′ 7″	5′ 4⅝″	12′ 9″
8	13′ 11″	3′ 1⅝″	6′ 9″	17	30′ 5″	5′ 8 ″	13′ 6″
9	15′ 9″	3′ 5 ″	7′ 6″	18	32′ 3″	5′ 11⅝″	14′ 3″
10	17′ 7″	3′ 8⅜″	8′ 3″	19	34′ 1″	6′ 2¼″	15′ 0″
11	19′ 5″	3′ 11¾″	9′ 0″	20	35′ 11″	6′ 6⅛″	15′ 9″

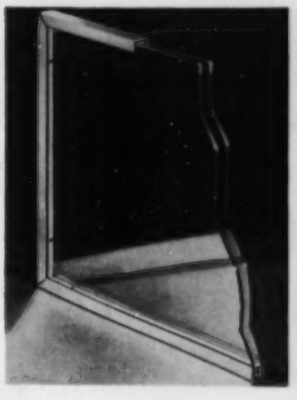
SINCE Horn 1909

*Dimension includes 4½ in. space between top seat and wall.
**Height in open position same as closed. For Bleachers higher than 20 Rows write for complete details and dimensions.

HORN BROTHERS COMPANY
DIVISION OF HORN INDUSTRIES • FORT DODGE, IOWA, U.S.A.

in contemporary architecture

EFFICIENT INSULATING properties of Twindow (the window with built-in insulation) are convincingly demonstrated by this photograph. In this home in Duluth, Minnesota, single-pane Plate Glass was temporarily installed in the right hand panel. Note the icy formation. On the other hand, the Twindow unit, installed at left, is clear, without condensation. Shortly after this picture was taken, a second Twindow unit was used to replace the single-pane window. Architect: H. S. Starin, Duluth, Minn.



THIS CUTAWAY shows the construction of a Twindow unit with two panes of Pittsburgh Plate Glass. The hermetically-sealed air space between the panes provides effective insulation which minimizes downdrafts, cuts heat losses through windows, reduces condensation. Insulation is even more efficient when three or more panes are used. There are forty-five standard sizes available, adaptable either for wood or steel sash.

HOME INTERIORS assume greater charm, when you design them with large expanses of Plate Glass structural mirrors. Around the fireplace in the living room, as shown here, is a popular application. Why not give your homes the magic of mirrors? Pittsburgh mirrors are available in clear plate, blue, green or flesh tint, with gold, silver or gun-metal backing. Photographed at the Manor House, New York.

DESIGN IT BETTER WITH—*Pittsburgh Glass*

Your Sweet's Catalog File contains a complete listing and descriptions of Pittsburgh Plate Glass Company products.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

PRODUCTS
(*Continued from page 162*)

speakers to make them more visible at night. Models are available with either cast-in hangers on junction boxes, or with simple aluminum baskets to hold speakers. Various types are available with any or all of the following items: roadway and post down lights, illuminated plastic junction box cover, red indicator lights to signal concessions, and speaker toggle switches and volume control. Cables are of stranded steel for safety from theft, or of neoprene covered coiled cords.

A special low-cost model is in natural finish aluminum, with cast-in hangers and straight speaker cords. Radio Corp. of America, Camden, N. J.

• *Autocrat In-A-Car Speakers* come in both heavy pressed steel or die-cast aluminum. Steel units are enamel finished, aluminum units have a natural finish. All junction boxes are of cast aluminum. Inside parts are plated for rust prevention. Straight cords are supplied with standard models. Extra accessories available include: coiled cords, post down guide lights, concession signal lights, baked-on hammer finishes, and basket cradles. Autocrat, Inc., 2227 Hepburn Ave., Dayton 6, Ohio.

Teller Windows For Drive-in Banks

Several types of manufactured window units for drive-in banks are available on the market. All are made of bullet-proof construction, and employ various methods of operating the deposit receiver to assure safety in money transactions. Two-way communication systems are provided in most cases. Some of the models available include:

• The *Mosler-Duplex Auto-Teller Windows*. The units incorporate a deposit receiver, package or payroll receiver, two-way speaker, and a self-locking gun port. The deposit unit employs double steel doors, interlocked so that only one can be opened at a time. Both are operated from within by hand levers. The outer door, when opened, moves down and serves as a shelf on which the customer may slide his deposit into the compartment. The windows are furnished in several designs, including bay and flush types, and a curved glass design. They may be obtained in a painted finish, or in aluminum or bronze plate. The manufacturers claim the unit may be installed in any style, shape or size of window desired. A kiosk-like *Curb Teller* is also available for sidewalk installation. Duplex Electric Co., 71–73 Grand St., N. Y.

• The *Diebold Drive-up Counters*. Most of these models are equipped with a revolving drum "Rotary Tray" deposit receiver. A single opening in the drum is rotated by the teller towards the customer to receive the deposit, then returned for teller's transactions. Standard models have either curved or flat construction, and are equipped with deposit tray, communication system and customer call buzzer. Package receivers are optional, and can be mounted below the window. Deluxe models are of the curved type, and have Rotary Tray or hopper type deposit receivers, package receivers and counter cash and storage drawers. An extendable drawer-type deposit receiver is available at extra cost. All units are finished in gray and stainless steel, and are made to suit wall thicknesses. The deluxe model requires a

(*Continued on page 228*)

HERE'S AID TO ARCHITECTS and ENGINEERS in planning SOUND SYSTEMS!

ARCHITECTS and their engineers are invited to make full use of the experience of RCA Sound System engineers and the great RCA research and engineering laboratories, in planning and engineering sound systems.

You can get practical help on sound systems for every type of building: Schools . . . Hospitals . . . Hotels . . . Factories and Offices . . . Churches . . . Department Stores . . . Airports and Terminals . . . Warehouses and Garages . . . Auditoriums . . . Recreational Centers . . . Institutions . . . Stadiums.

• • •

Call on RCA Sound System engineers while your plans are still in formative stage. *No obligation, of course.*

SOUND PRODUCTS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

3-H

Please have one of your sound system engineers call on us.

NAME_____

FIRM_____

STREET_____

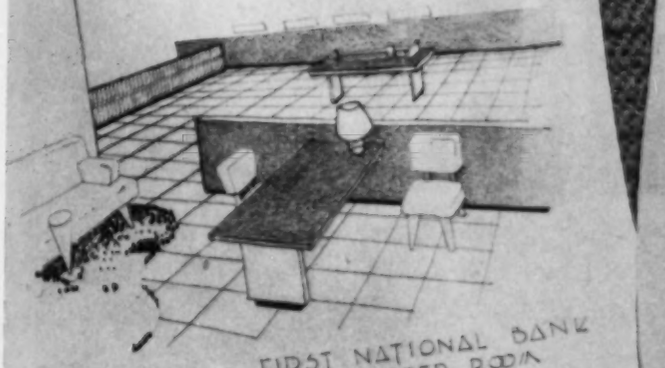
CITY_____ STATE_____

All 4 Call for CONSOWELD

WORK AND SERVICE CENTERS in offices, banks, stores, restaurants, factories, schools, hospitals, hotels and homes are more efficient, sanitary and attractive when covered with CONSOWELD, a thermo-setting plastic laminate. More economical, too, for care-free CONSOWELD never needs painting or resurfacing!

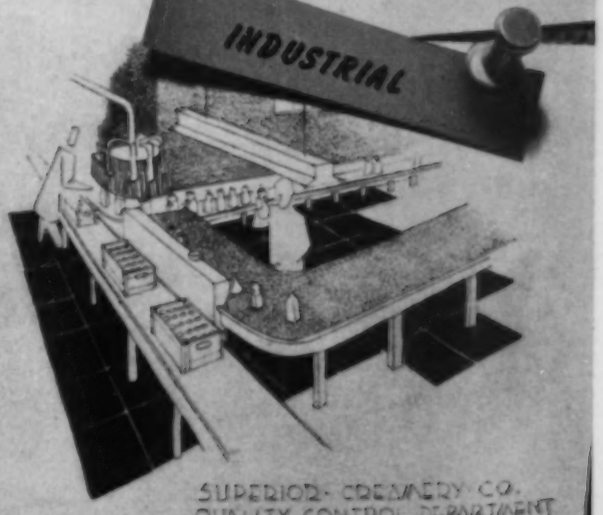
Colorful CONSOWELD (over 40 colors and patterns for latitude aplenty in your color-scheming!) is resistant to heat, moisture, abrasion, alkalies and acids. Important horizontal and vertical surfaces in commercial, industrial, institutional and residential building and modernization call for the enduring, functional beauty of CONSOWELD.

COMMERCIAL



FIRST NATIONAL BANK
CUSTOMER ROOM
CONSOWELD SURFACES

INDUSTRIAL

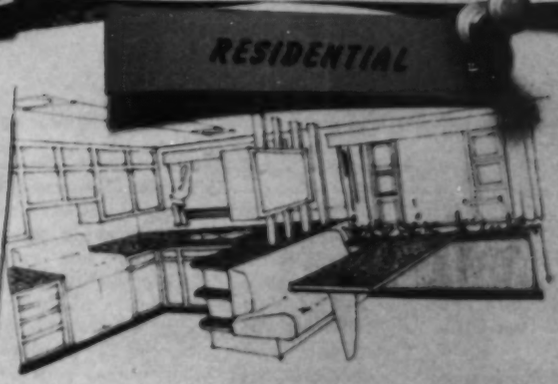


SUPERIOR CREAMERY CO.
QUALITY CONTROL DEPARTMENT
CONSOWELD SURFACES

INSTITUTIONAL

BRECKENRIDGE MEMORIAL HOSPITAL
FOOD PREPARATION CENTER
CONSOWELD SURFACES

RESIDENTIAL



ALTERATIONS TO THE RESIDENCE
of MR. & MRS. J. HENRY JONES
CONSOWELD SURFACES

CONSOWELD
decorative laminates

PLASTICS DIVISION
CONSOLIDATED WATER POWER & PAPER COMPANY
WISCONSIN RAPIDS 11, WISCONSIN

© 1950, Consolidated Water Power & Paper Co.

PRODUCTS
(*Continued from page 226*)

wall opening 47⅛ in. high by 60½ in. wide. Diebold, Inc., 1586 Fifth St., S. W., Canton 2, Ohio.

Car Heaters For Drive-in Theaters

National In-Car Heaters are designed to provide electric heat for cool nights, extending the playing-season of a drive-in theater. The units are 5 by 4½ by 4 in., housed in an aluminum alloy case. The case is said to remain cool while in operation. A hook is provided for hanging on the car window. The unit is finished with a maroon lid and gray crackle case.

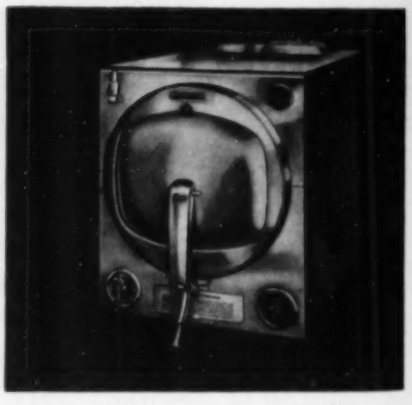
The heating element is a tubular type, of weather-proofed sheathed steel. A quiet running induction motor and an aluminum fan are used to distribute heat. Heaters come with coiled cords, and are completely grounded. Switch, intake louver and outlet grill are guarded for protection. National Heaters, Inc., 1647 Victory Blvd., Glendale 1, Calif.

• The *Mobiletone Deluxe Heater-Speaker Unit* combines both in-car speaker and heater in a single housing. The case is of anodized aluminum, with a ceramic housing for the heating portion. It is claimed that the unit can be placed on car upholstery in any position without fear of burning. The heating element is a *G.E. Calrod* unit. Each heater element is patron-controlled by a switch on the exterior of the case. The motor is said to be noiseless. A three-conductor heavy duty coiled cable is used.

The speaker unit is a 4 in. G.E. unit with volume control. A parking light, located in the junction box, can be adjusted to a small spot or a flood. Theatrecraft Manufacturing Corp., 1878 E. 18th St., Cleveland, Ohio.

Steam Cooker

Designed for small restaurants, diet kitchens and cafeterias, the *Market Forge Steam Cooker*, counter model ST-G, is claimed to provide maximum cooking speed with minimum fuel consumption. The cooker is gas operated and generates its own steam. A pre-set pressure of 5 to 15 lb is maintained, Gas connection is arranged so that gas line can be brought in through side or bottom of the unit.

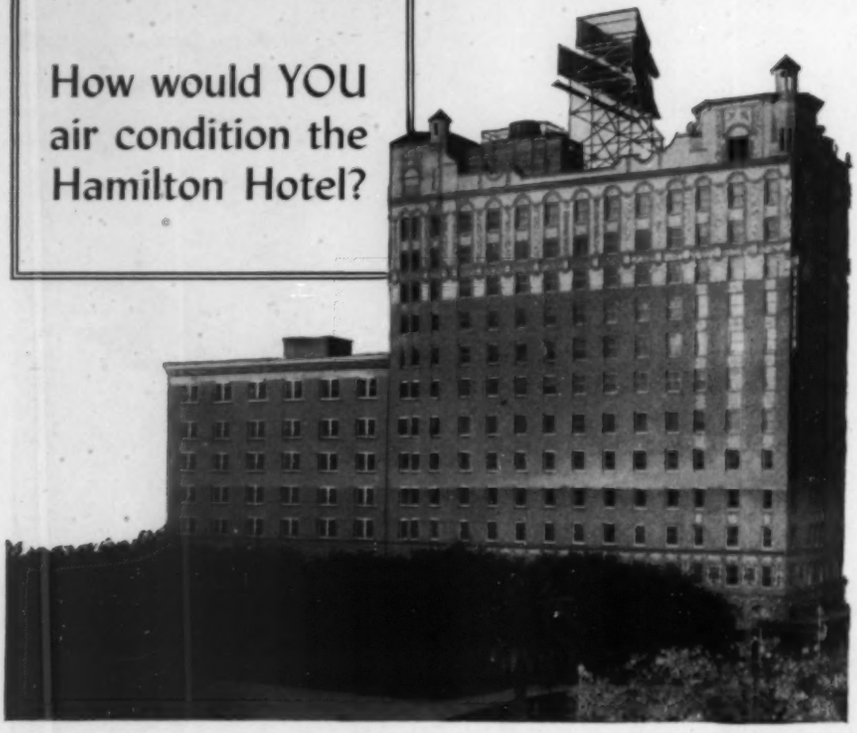


Compact steam cooker is planned for use in small cafes and restaurants

Provision is made for bolting cooker to counter if desired. The unit is constructed of anodized aluminum, has a capacity of three cafeteria pans. It comes equipped with safety valve, blow-out plug, low water cut-off, automatic air vent, automatic steam vent and timer. The necessary water is put in

(*Continued on page 230*)

How would YOU air condition the Hamilton Hotel?



The Hamilton Hotel in Laredo, Texas had air conditioning in a few rooms—wanted to add more.

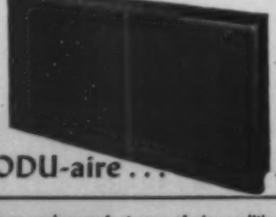
The architect, after careful study, recommended USAIRCO's ductless Modu-aire system because it would avoid the headaches and expense involved in a duct system. Everyone is delighted with the results.

175 Modu-aire units are connected by small copper tubing which conducts chilled water from the central refrigeration system to each room. Every Modu-aire unit has a simple dial control to regulate temperature and humidity..

For the Hamilton Hotel, in searing-hot Laredo, Texas, USAIRCO Modu-aire has really "beat the heat". Management reports booking summer conventions and additional hot weather tourist business.

For building owners and builders USAIRCO Modu-aire has the flexibility and economy so important in air conditioning. It's a complete heating and cooling system—providing truly luxurious air conditioning.

Write us before you draw up your next specifications. United States Air Conditioning Corporation, Minneapolis 14, Minnesota.



MODU-aire . . . . . by

U.S.AIRCO

Engineers and manufacturers of air conditioning, refrigeration, unit heaters, coils and ventilating equipment

It happened at night . . .

In a hospital almost anything can happen at night . . . at any time. For births, accidents, emergency operations may demand attention at any hour. Thus dependable lighting in hospitals is extremely vital. And this means more than number, brilliance and location of lights. Provision should be made to offset the danger of failure of normal current supply.

Lighting failures are of frequent occurrence. For storms, fires, floods, collisions or other accidents beyond the control of ever-vigilant utility companies give little or no warning and are a serious menace to electric power lines.

You can safeguard the buildings you design against such power failure. Exide Emergency Lighting provides safe, sure, modern protection to hospitals, schools, theaters, stores and other buildings. *Instantly* and *automatically* it takes over the lighting load when other sources fail. It can be supplied in units or systems to meet any requirement.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

Exide
EMERGENCY LIGHTING

"Exide" *Reg. Trade-mark U.S. Pat. Off.*

1888 . . . DEPENDABLE BATTERIES FOR 62 YEARS . . . 1950

PRODUCTS
(*Continued from page 228*)

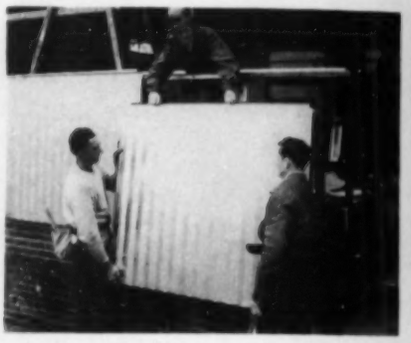
through the door with any utensil available. Market Forge Co., 25 Garvey St., Everett 49, Mass.

Attraction Signs For Drive-in Theaters

Poblocki and Sons' drive-in attraction and name signs are available in 21 standard designs and a great range of prices. Signs are constructed of paint-lok sheet metal, aluminum, stainless steel or porcelain enamel, and can be double or single faced or V type. Various kinds of illumination and flashing effects are supplied. Signs are pre-fabricated and come with transformers, wiring, tube supports, tubing and housings; completely wired. Lamps and support poles are not furnished. Attraction sign faces are double strength white opal glass. Colors of neon tubing and backgrounds are optional. Special designs are made on order. Poblocki and Sons, 2159 S. Kinnickinnic Ave., Milwaukee 7, Wis.

Steel Curtain Walls

Republic stainless steel curtain walls consist of a sandwich make up of steel pans enclosing lightweight insulation. The exterior sheet is corrosion-resistant stainless steel, the interior sheet is carbon steel. Panels weigh from 6 to 10 lb per sq ft, depending upon thickness and type of insulation used.

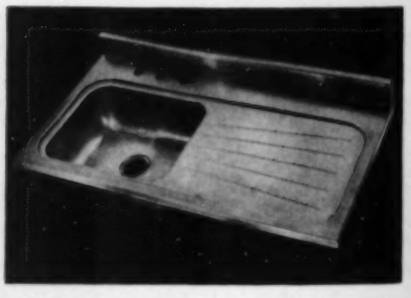


Stainless steel panels provide lightweight units for curtain walls

The panels are shop fabricated. They are attached to building structural skeletons by continuous angles. Provision for vertical and horizontal adjustment has been provided for alignment. Republic Steel Corp., Republic Bldg., Cleveland, Ohio.

Stainless Steel Sink

The *Legion Stainless Sink*, made for use with custom kitchen counter installations, is die stamped of stainless steel. Bowls are joined to the tops with a special lock type joint. Tops are pitched and grooved, and have a raised rim and apertures for plumbing fixtures.



Kitchen sink unit is fabricated of die-stamped steel for custom-built counters

(*Continued on page 232*)

BETTER Colors WITH Premium Quality

BETTER Wear AZPHLEX ASPHALT TILE

BETTER Floors

There are four good reasons why Azphlex grease-resistant asphalt tile offers such remarkable qualities:

1. ***Tremolite Talc,*** its mineral filler, is highly stable, and totally resistant to alkalis, acids and other chemicals. It is fine-grained and microscopically fibrous.
2. ***Asbestos Fiber*** used in Azphlex is of the Chrysotile variety, noted for its fine texture, flexibility, strength and resistance to fire.
3. ***Thermoplastic Binder*** is a polystyrene—a scientifically proportioned composition of low molecular weight—which is plasticized with aromatic, petroleum-derived oils and is unaffected by moisture, acids, alkalis, oxidation, etc. Uniformity and perfect blending are assured because the binder is cooked at high temperature in large batches.
4. ***Color Pigments*** used in Azphlex are permanent and alkali resistant.

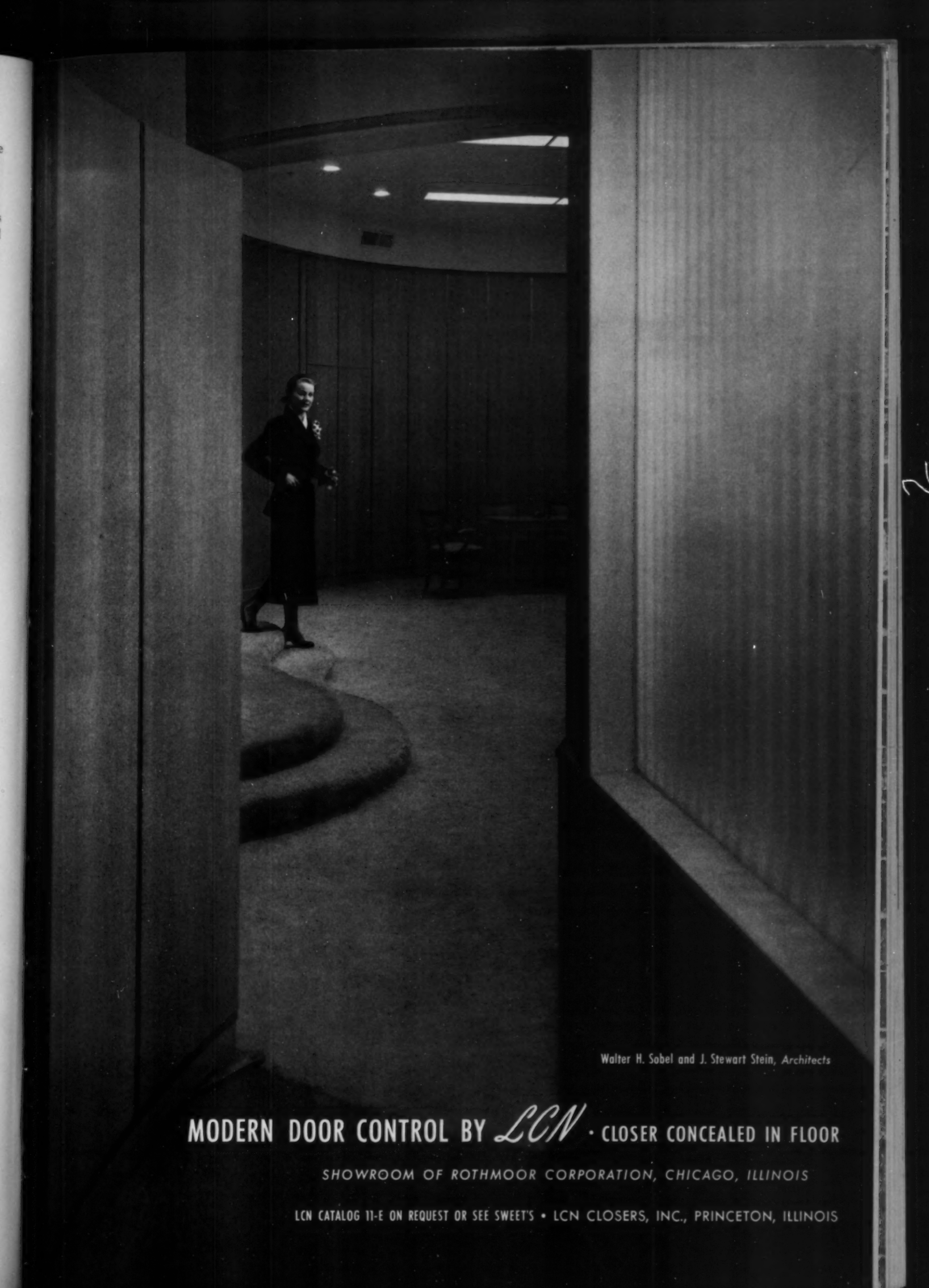
AZROCK ASPHALT TILE · AZPHLEX ASPHALT TILE · MEMBER ASPHALT TILE INSTITUTE

When you specify grease-resistant, premium-quality Azphlex Asphalt Tile — you can *know* that you're giving your clients better, longer-lasting floors at lower cost. *Get full information and sample tiles from your AZROCK-AZPHLEX Dealer, or write to Dept. C.*

UVALDE ROCK ASPHALT CO.

Makers of AZROCK and AZPHLEX Asphalt Tile

FROST BANK BLDG. • SAN ANTONIO, TEXAS



Walter H. Sobel and J. Stewart Stein, *Architects*

MODERN DOOR CONTROL BY *LCN* · CLOSER CONCEALED IN FLOOR

SHOWROOM OF ROTHMOOR CORPORATION, CHICAGO, ILLINOIS

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS

PRODUCTS
(*Continued from page 230*)

The sinks are made in lengths ranging from 39 to 72 in. Legion Stainless Sink Corp., 40th Ave. and 21st St., Long Island City 1, N. Y.

Color in Kitchen Units

St. Charles Custom-Built Steel Kitchens feature an extensive line of kitchen counters, cabinets and fittings in a choice of 10 baked-enamel-finish colors. These colors include four pastels, four deep tones, gray and white. Units are available in a large number of sizes, made in graduations of 3 in. widths. While sizes are standard, the units are not pre-fabricated and stocked, but each one is made and finished as part of a particular kitchen. When required, units of special dimensions can be furnished.

Standard designs include wall units, base units, sink fronts, full height units and fillers. Tops may be of linoleum, vinyl, stainless steel or maple. Special purpose units and accessories are available for most kitchen storage and work needs. St. Charles Mfg. Co., St. Charles, Ill.

Adjustable Ceiling Fixture

An indirect lighting fixture, designed by Harry Gitlin, employs a system of concealed pulleys and counterbalance to permit simple vertical adjustment for varying conditions and uses. A leather covered handle is fixed to the lamp shield for raising or lowering fixture. Finish is in brushed brass. The support-

Ceiling fixture has pulley device and handle for adjusting height

ing wire is of reinforced rubber, and is available in black or gray. Ledlin Lighting, Inc., 49 Elizabeth St., New York 13, N. Y.

Venetian Blinds

Flexalum blinds employ an aluminum alloy for slats that are claimed to be extremely lightweight, flexible, and resistant to chemicals, heat, moisture and salt spray. A special plastic finish is said to prevent fading, chipping, peeling or cracking. Fourteen colors are available.

Tapes are made of vinyl plastic. They are claimed to have great strength and wearing qualities. Cleaning may be done with a damp cloth. Colors may match or contrast with those of slats. The blinds are similar in design and operation to conventional venetian blinds. Hunter Douglas Corp., 150 Broadway, New York 7, N. Y.

(*Continued on page 234*)

BARCOL ◆ LOOK FOR THIS MARK OF QUALITY

Touch a Button... to Open the Door

The magic of radio brings you this modern convenience! With BARBER-COLMAN RADIO CONTROL, you can open or close your garage doors by simply touching a button in your car. The car can be moving, or standing still, anywhere (and in any position) within approximately 75 feet of the garage. The equipment operates on FCC-assigned frequencies, hence can use maximum power in the transmitter and a minimum of tubes in the receiver. Barber-Colman, a pioneer in the radio control field, is a reliable source of practical equipment, with over 20 years experience in this specialized field. *Ask your Barcol representative for a working demonstration of the amazing Radio Control.*

ELECTRIC DOOR OPERATORS

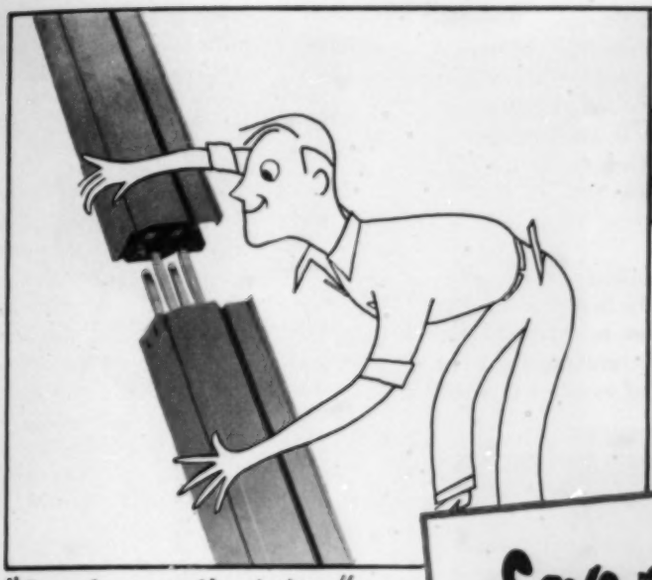
Soundly engineered and ruggedly built for dependable and durable performance — Barcol Electric Door Operators are made in a variety of models for swinging, sliding, overhead, and steel rolling doors, and for sliding gates. They can be actuated by any of various switches, by electric eye, or by Radio Control. *Get a demonstration!*

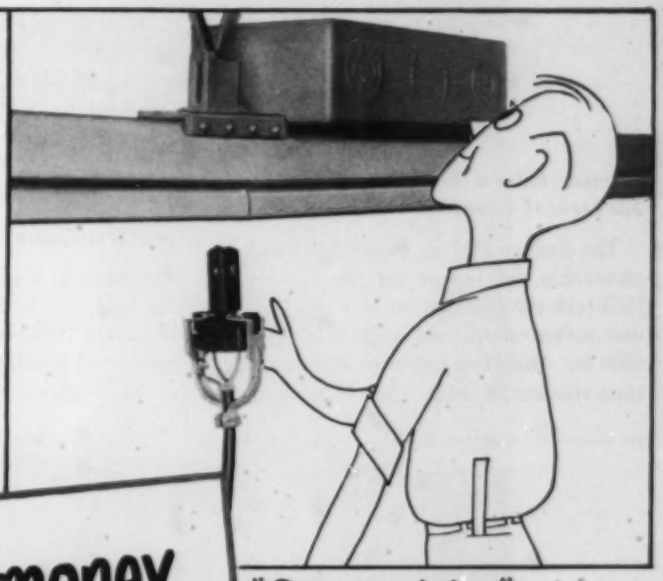
SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY
102 MILL STREET • ROCKFORD, ILLINOIS

The Only Manufacturer of All Three...

GARAGE DOORS | ELECTRIC OPERATORS | RADIO CONTROL





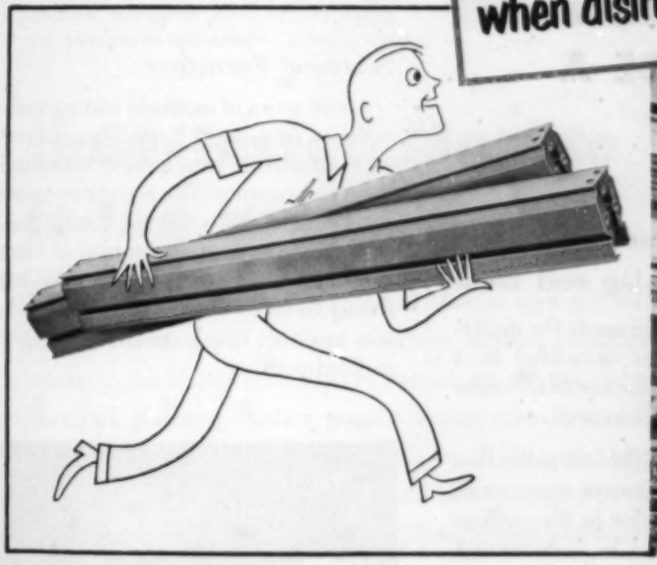
Save money these 3 ways when distributing power

"Quick-install-ability" saves initial cost

LTG FLEX-A-POWER busways are pre-fabricated housings which are easily coupled in any arrangement and in runs of any required length. Time for installing is much less than for wiring and conduit.

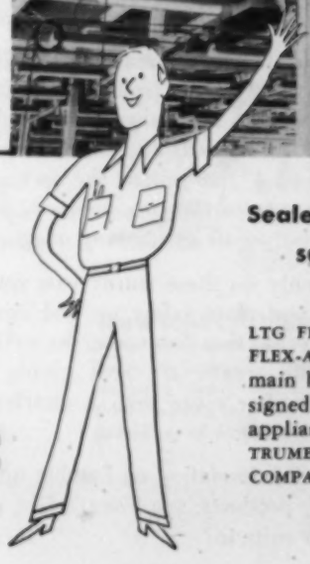
"Plug-in-ability" saves time relocating machines

Take-off plugs or trolley can be inserted anywhere (no drop-out section needed for trolley). You can add or relocate loads without rewiring expense and without long extensions.



"Take-apart-ability" saves material expense

Whenever a *major* relocation of outlets is required, the entire FLEX-A-POWER system can be dismantled, removed to another location and re-installed with practically 100% re-use of materials.



Sealed Power Corp. saves with Flex-a-Power

LTG FLEX-A-POWER, one of six forms of FLEX-A-POWER for various services from main breakers to individual loads, is designed for light-duty lighting, small tools, appliances. Write for Bulletin TEC-3, THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL (T) ELECTRIC

TRUMBULL'S TRAIN OF NEW PRODUCTS

PRODUCTS
(*Continued from page 232*)

Corner Elbow For Electrical Conduit

The *Gedney Pull-in Elbow* features a removable side cover on the side to facilitate the installation of wires. The unit makes sharp right angle turns possible for straddling beams or other locations requiring a snug corner fit, without forcing or damaging the wires. With the cover removed, wires may be pulled straight in either direction. The cover is screwed in place on completion of wiring. The elbow is available in ½, ¾ and 1 in. sizes. Gedney Electric Co., 1270 Sixth Ave., New York, N. Y.

New Armchair

Designed as a reading and conversation chair, this is the first of a series of new pieces designed by Alvin Lustig, graphic and architectural designer. The seat and back are of moulded plywood covered with foam rubber and upholstered. Legs are solid steel rod. It is available in leather as well as two-tone upholstery combinations. Legs may be black or white lacquer, or plated in brass or chrome. Paramount Furniture Manufacturing Co., Los Angeles 46, Calif.

New upholstered chair is formed of moulded plywood and foam rubber

Sectional Furniture

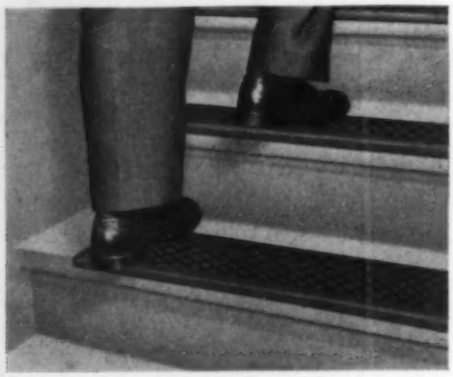
A new series of sectional seating units designed by George Nelson is equipped with attachable cantilevered arms and table components. The attachments are held in place by a special tubing construction. The arm attachment is foam rubber on wood, spring mounted so that it may be tilted upward or leveled. It is also available in a permanently level or inclined position.

Seating units have attachable arm and table units, permit many arrangements

There are three table attachments: round, oblong, and a one-drawer end table. Tops are of white formica, said to be liquor, stain and burn proof.

The seating units come, with backs, in

(*Continued on page 236*)

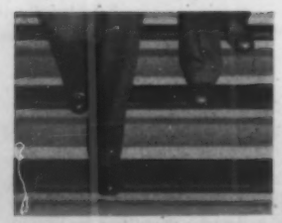


UNPROTECTED STAIRS CAN BE A hazard FOR up TRAFFIC!

Specify FERALUN* Safety Treads In At Least 4″ Widths to Prevent Slipping and Wear

As the illustrations show, UP traffic needs the underfoot "grip" of abrasive particles embedded in a tread *at least 4″ wide*. DOWN traffic needs the same safety feature on the tread nosings as well.

Feralun treads are made to provide full protection from this "double traffic" all stairways must serve. They always have abrasive granules in the nosings —for the *down* traffic, and should be wide enough (at least 4″) to protect the *up* traffic as well. *Note action photos showing points of foot contact which are also points of slipping and wear.*



Not only do these sturdy cast iron abrasive treads give underfoot safety *up* and *down*, but they also give protection from wear as well. Installations of Feralun treads are still giving maintenance-free safety after more than a quarter century of continuous use.

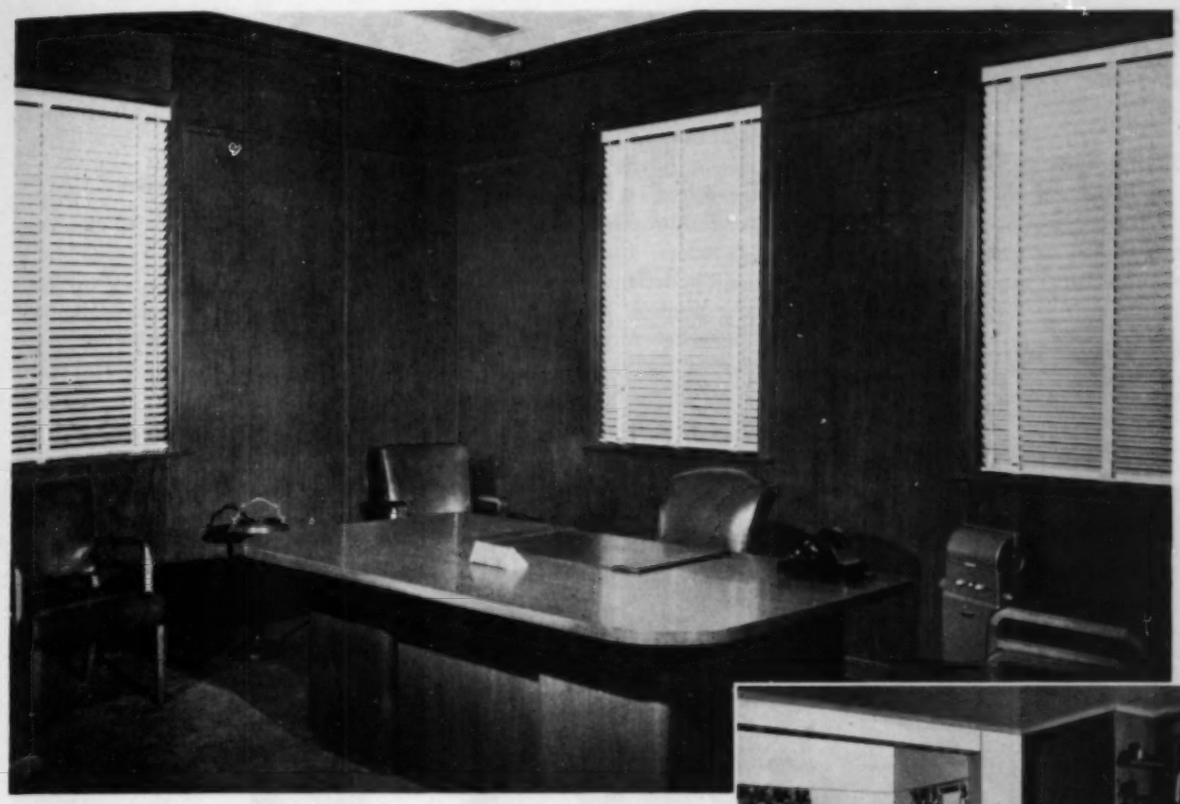
For full information on Feralun and other underfoot safety products, see Sweet's File, Architectural, Sec. 13a/10, or write to:

AMERICAN ABRASIVE METALS CO.

463 Coit Street • Irvington, New Jersey

USE FERALUN TREADS AND BE SAFE . . . "UP AND DOWN"

*Reg. U. S. Pat. Off.



Luxurious Mahogany Wood Pattern Marlite lends an atmosphere of impressive elegance to this modern executive office.

Marlite's practical beauty makes housekeeping easier in kitchens, baths, dens, utility rooms, and studies.

time-tested Marlite is the answer!

For 20 years architects have specified Marlite wall and ceiling panels, for modern, practical interiors. Homes, institutions, stores . . . no matter what type of project, on old walls or new, Marlite's gleaming surface assures lasting client satisfaction. Beautiful? Yes! Quickly installed? Sure! But the *biggest* advantage is the lasting economy, the maintenance-free durability of the genuine Marlite baked plastic finish. Dirt is sealed *out;* the rich colors are sealed *in* to stay!

63 colors and patterns make your job easier. Panels are 4′ wide in 4′, 5′, 6′, 8′ and 12′ lengths. New Marsh Color Matched Aluminum Mouldings blend perfectly, or form a pleasing contrast with any Marlite color.

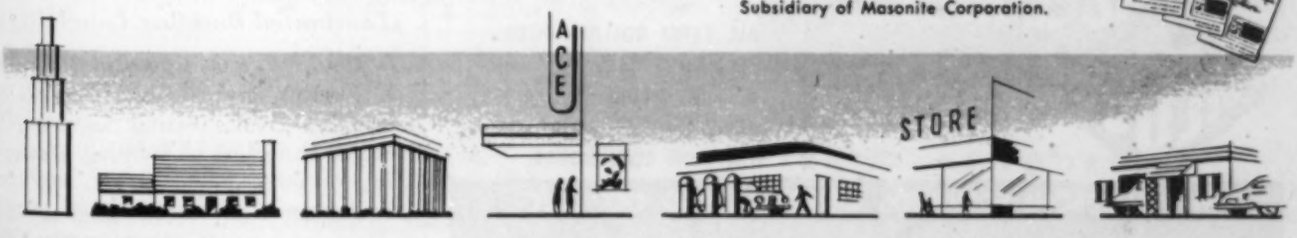
See our catalog in Sweet's File, Architectural.

Marlite®

PLASTIC-FINISHED

WALL and CEILING PANELS

WRITE TODAY FOR FREE FOLDER showing actual samples of Marlite in Wood, Marble, Plain, Horizontaline, and Tile patterns; illustrating many Marlite interiors. Marsh Wall Products, Inc., Dept. 805, Dover, Ohio, Subsidiary of Masonite Corporation.



OFFICE BUILDINGS • HOMES • HOTELS • HOSPITALS • THEATRES • AUTO SHOWROOMS • SERVICE STATIONS • STORES • TOURIST COURTS

PRODUCTS
(*Continued from page 234*)

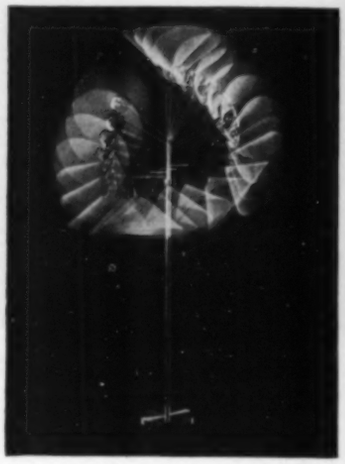
25, 50 and 75 in. widths. A 25 in. ottoman is also available. All are the same height and depths. Seats are covered with foam rubber. Legs are satin-finish metal. Herman Miller Furniture Co., Zeeland, Mich.

Window Air-Conditioning Unit

The *Coolair* window model air-conditioner features one-motor operation with a special spin-spray cone, which is said to give a maximum flow of cooled air at minimum electrical and water consumption. The unit draws outside air through a spray, cleans, filters, humidifies and cools it, then delivers it into the interior. Fiber glass filters are also said to remove disagreeable odors. Completely packaged, the unit is designed to fit a 30 in. double hung window. Filler pieces are available for wider windows. The unit operates on 115 volt, 60 cycle A.C. household current. Each is supplied with an automatic float valve, 25 ft of copper tubing, saddle valve and 6 ft of electric cord, switch and plug. Thermostats are available. Belmetals Mfg. Co., Belmont, Calif.

Multi-Use Floor Lamp

The *Hosmer 3-Way Swing Lamp* employs a two-jointed, telescoping arm to produce a lamp adaptable to many uses: as a torchiere for indirect lighting; as a reading or bridge lamp; as a directional lamp to spotlight pictures or other features. The telescoping arm makes the floor lamp adjustable in height from 5 to 7 ft. Both joints rotate clockwise and counter-clockwise, also permit both or either arm to swing at any angle between horizontal and vertical. Spring friction permits joints to be positioned without tightening of wing nuts, etc. All wiring is concealed; a special device prevents wiring from becoming twisted. The lamp is available in copper, brushed brass or brushed cadmium finish, with shades in colored cloth or aluminum "acorn spin." A three-way switch permits 50, 100 or 150 watt illumination. Table and pin-up models are also available with all the features of the floor lamp except telescoping. Hosmer Lamps, 1422 Grant Ave., San Francisco, Calif.



Floor lamp adjusts to a great variety of positions for general and special uses

Laminated Building Panel

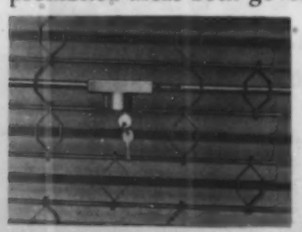
The *Kaylo Laminated Panel* offers a lightweight material for curtain walls or other non-loadbearing sections. It is said to require no painting, plastering or other finishing, but may be painted with alkaline-resistant paints

(*Continued on page 238*)

New Safety
plus air conditioning
with MECCO Grilles

A NEW MECCO PRODUCT . . . MECCO Rolling Grilles are engineered and built with the experience of scores of years in the fabrication of all types of doors for all types of buildings and projects. A combination of beauty and strength makes these new MECCO Grilles ideal for any application requiring locked off areas without disturbing light and air flow.

WHERE TO SPECIFY . . . For restricted areas in factories, warehouses, public buildings, schools, hospitals and other institutions . . . for store fronts and sections of stores . . . for recreational centers, stadiums, bowling alleys, race tracks and playgrounds . . . for entrances to parks, estates and prohibited areas both governmental and private.



SEND FOR FREE ESTIMATE OF YOUR REQUIREMENTS
for new MECCO Rolling Grilles are available in sizes and types to meet your individual requirements. Complete data is available to you without obligation of any kind . . . write today.

Larger Elevation Cylinder Locking Device

"MECCO" doors

ALL TYPES ROLLING DOORS
ROLLING GRILLES
ROLLING DOORS TO SPECS.
KALAMEIN FIRE DOORS
TIN IRON CLAD DOORS

THE MOESCHL-EDWARDS CORRUGATING CO., INC.
P. O. BOX 1115, CINCINNATI, OHIO

See How Gold Bond Products Work Together For You!

FIRST METHODIST CHURCH
MAGNOLIA, ARKANSAS

Architects . . . . . Ginocchio & Cromwell
Little Rock, Ark.

General Contr's . . . Bennett & McGowan
Magnolia, Ark.

Plast. Contr's . . . . . E. J. Brown
Magnolia, Ark.

GOLD BOND PRODUCTS USED:

METAL LATH AND ACCESSORIES
REGULAR GYPSUM PLASTER
MOULDING PLASTER
GAUGING PLASTER
FINISH LIME
ACOUSTICAL PLASTER

THAT'S Gold Bond Acoustical plaster on the ceiling of this fine new church in Magnolia, Arkansas. This new lightweight product insures perfect audibility in churches, auditoriums, theaters, etc.—wherever sound control is an important factor. It is adaptable to any curved or irregular surface and is applied by regular plasterers. And it adds very little to overall costs.

All the other Gold Bond products listed at right were used in this church job. You'll find these and the rest of Gold Bond's 150 building products fully described in Sweet's. Specify them exclusively. That way you eliminate divided responsibility by letting National Gypsum fully guarantee the performance of all these materials.

You'll build or remodel better with Gold Bond

NATIONAL GYPSUM COMPANY, BUFFALO 2, NEW YORK

Gypsum lath, plaster, lime, sheathing, metal lath, sound control products, wall paint, rock wool insulation, fireproof wallboards and decorative insulation boards.

PRODUCTS
(*Continued from page 236*)

if desired. The panels are composed of a 1⅝ in. core of calcium-silicate insulating material, faced with ⅛ in. cement-asbestos boards. They come in 4 by 8 ft sizes, weighing 200 lb.

The material may be used for either exterior or interior walls. It is claimed to have good structural strength, and to be resistant to moisture, flame and fungus. The calcium-silicate material is also being used as cores in panels faced with wood veneer, plastics and metals. Kaylo Div., Owens-Illinois Glass Co., Toledo 1, Ohio.

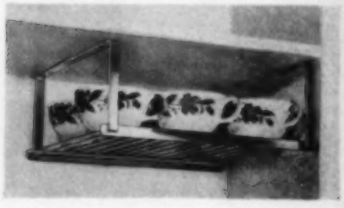
Integral Trim For Steel Casement Window

The new *Fenestra* residence steel casement windows include complete outside and inside metal trim for simplification of installation. Only the simplest rough opening preparation is said to be needed. The inside of the unit is recessed to provide a pocket for blinds or roller shades.

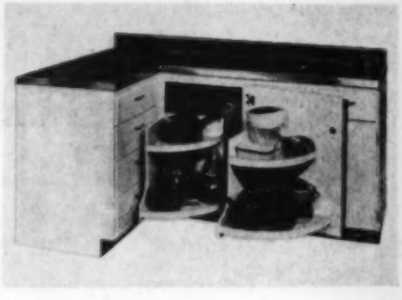
Casement window, screen and storm sash have Bonderized, prime painted frames, bronze-lacquered hardware and screen cloth. Trim is galvanized and Bonderized. Head and jamb sections are 18 gage, sill 16 gage, galvanized steel. Outside sill and inside stool project ⅜ in. beyond jamb members for appearance and weathering. Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.

Kitchen Equipment

Two new space-saving storage units for kitchens provide compact storage in space often left unused. The *Kitchen Maid* swinging shelf cabinet base unit utilizes corner space for housing of pots, pans and the like. Contents are brought out into the open, where they are more easily reached.



Handy cup rack fits under cabinet shelf



Kitchen cabinet has swing-out shelves to utilize often wasted corner space

An aluminum cup shelf is designed to be fixed to the under surface of cabinet shelves, and provides safe, compact storage for eight cups. Kitchen Maid Corp., Andrews, Ind.

Record Changer For Custom Installation

The *Lincoln Automatic Turnover Record Changer*, designed for custom and built-in phonograph installations, will play one or both sides of 7, 10 and 12 in. records of 33⅓, 45 and 78 rpm speeds.
(*Continued on page 240*)

Insert: Standard grille TERRAZZO *floor, in a U. S. Veterans Administration hospital. 4" square brass or zinc grilles inserted in* TERRAZZO *floors are time-proven safeguards against static explosion hazards.*

The operating room floor that never needs an operation: *Terrazzo*

■ Hospital floors never need "surgery" when the architect specifies TERRAZZO. Installed for permanence, punishment and performance, TERRAZZO improves with age and thrives on use. Wherever "lifetime" floors are needed, easy-to-keep-clean TERRAZZO is not only just what the doctor ordered—it's what the management welcomes for minimum upkeep.

■ Versatile as an architect's imagination, TERRAZZO provides color, design, and pattern tailored to individual need. Specify TERRAZZO and enjoy low first cost, low maintenance cost, and healthy longevity.

Write for free AIA Kit, the complete reference work about TERRAZZO.

SEE OUR CATALOG IN SWEET'S

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

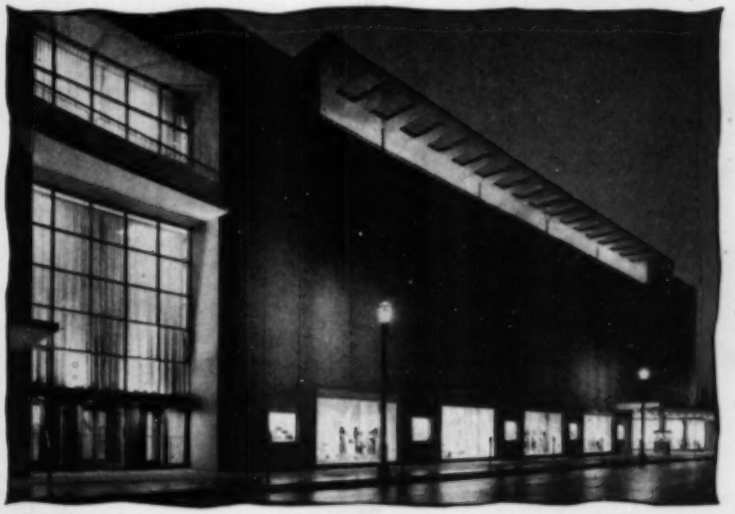
711 Fourteenth St. N.W. Dept. H Washington 5, D. C.

FOR DEPENDABLE HEAT

. . . another outstanding retail store selects—

WIEBOLDT'S DEPARTMENT STORE, Evanston, Illinois
Holabird & Root & Burgee, Architects and Engineers
Northwestern Heating and Plumbing Co., Heating Contractors

KEWANEE
STEEL BOILERS



Pictured above is the boiler room of the new Wieboldt's Department Store in Evanston, Illinois, which is equipped with four oil burning KEWANEE Steel Boilers producing 23,320,000 Btu hourly and having a total heating capacity of 97,160 sq. ft. steam.

Today's new, higher standards of comfort demand more efficient heating systems; just as advanced ideas in convenience to customers have resulted in new designs and planning for modern department stores.

This outstanding building is typical of the finer modern business structures which have chosen Kewanee Boilers for dependable, economical heat.

KEWANEE BOILER CORPORATION

BOILERMAKERS 80 YEARS KEWANEE, ILLINOIS

Branches in 60 Cities—Eastern District Office: 40 West 40th Street, New York City 18

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

SAVE SPACE +
ADD FLEXIBILITY
+ ADD BEAUTY

"Swing" is old fashioned!
The "*pleat's*" the thing in doors!

America's NEW pleat-type door closure with the cornice that gives it a "finished look."

folDoor is the answer to SPACE SAVING, to an unheard of FLEXIBILITY of room-arrangements, to new, up-to-the-minute BEAUTY.

folDoor is the best looking door closure you ever saw. Folds into beautiful pleats into an unbelievably small space, can be operated by a child . . . and open or closed, retains its beautiful pleated lines to add charm to any room.

Built on a rugged, rust-resistant steel frame, folDoor comes in a wide choice of beautiful, colored plastic fabrics to harmonize with any color scheme and is topped off with an attractive, formed cornice that gives it a "finished look."

folDoor is the IDEAL closure for CLOSETS, ROOMS, ALCOVES, and can be used to excellent advantage for PARTITIONS . . . fits into all homes, modern as well as period . . . just the thing for stores, schools, offices and institutions.

Available in STOCK and MADE TO ORDER sizes. Write for descriptive literature and specifications.

Excellent Installing Distributor Territory Still Open. Write for Information.

FOLDOOR

HOLCOMB & HOKE MFG. CO., INC.

1551 Van Buren Street, Indianapolis, Indiana

Architectural Engineering

PRODUCTS

(*Continued from page 238*)

It will accommodate 20 shellac or 22 long-playing records at one loading. Various sized records of the same speed can be intermixed

The machine operates on a vacumatic principle, records being picked up by means of a rubber suction cup which transfers each record from the record table to the turntable individually. The usual pile of records is eliminated, keeping the tone arm at a constant height. Previously played records are deposited in a sliding record receiver below the turntable. The unit measures 26 in. long, 13½ in. wide and 15½ in. high. An 8 in. clearance is required above deck, 7¾ in. below. It is equipped with a high-fidelity, turnover type, replaceable-needle crystal pick-up. Liberty Music Shop, 450 Madison Ave., New York, N. Y.

Illuminated House Numbers

Reflecto-Lite is designed to provide easy visibility of house numbers from both sides, day and night. A lighting system employs a 7½ watt bulb which also directs light downward for the entrance. The unit is finished in satin

Trim house numbers are designed for good visibility both day and night

aluminum, with red, blue or black numbers. Numbers are easily changed, and may be combined with letters. Unbreakable materials are used throughout. Overall dimensions are: 5½ in. high, 11 in. long, and 8 in. wide. Reflecto-Lite, Inc., 26 E. Clinton Ave., Oaklyn 6, N. J.

(*Continued on page 242*)

PREVENT EXPENSIVE WATER DAMAGE

HAROLD SPITZNAGEL
SIOUX FALLS, S. D.

Specify
CABOT'S
WATERPROOFINGS

to protect exterior masonry surfaces from unsightly efflorescence and the expensive damage caused by water seepage followed by freezing and thawing. Cabot's Waterproofings penetrate deep into voids and pores of masonry walls . . . provide a long lasting moisture resistant seal. Walls treated as much as twenty years ago with Cabot's Waterproofings are still moisture-proof today.

Use Cabot's Clear Cement Waterproofing for Cement, Stucco, Cast Stone and all light colored masonry.

Use Cabot's Clear Brick Waterproofing for Red Brick and Dark Colored Masonry.

Write Today for samples of Cabot's Waterproofings and complete information.

Samuel Cabot, Inc.
849 Oliver Bldg., Boston 9, Mass.

"HEY, ISN'T THAT A JOHNS-MANVILLE SMOOTH-SURFACED BUILT-UP ROOF?"
"YEH, LOOK AT THESE FELTS. THEY'RE NOT ONLY ROTPROOF AND WEATHERPROOF, BUT FIREPROOF!"
"THAT'S THE ROOF WITH ASBESTILE* FLASHINGS FOR ADDED PROTECTION!"

Yes—it's a Flexstone* Roof

Each ply is a flexible covering of stone!

The secret of a Johns-Manville Flexstone Built-Up Roof is in the *felts*. They're made of fireproof, rotproof, weatherproof, enduring *asbestos*.

Flexstone Built-Up Roofs won't dry out from the sun . . . need no periodic coating. They're *smooth-surfaced*, too—permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . applied only by *J-M Approved Roofers*. J-M Asbestos felts are perforated to make application easier, give a smoother job, conform better to roof decks.

For your added protection, the Johns-Manville Asbestile* System of Flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement designed for use with asbestos flashing felts to give thorough watertightness. As it sets, Asbestile becomes hard and forms an integral part of the wall itself.

Send for brochure BU-51A. Contains complete specifications for Flexstone Roofs and the Asbestile Flashing System. Johns-Manville, Box 290, New York 16, N.Y.

JM PRODUCTS

*Reg. U. S. Pat. Off.

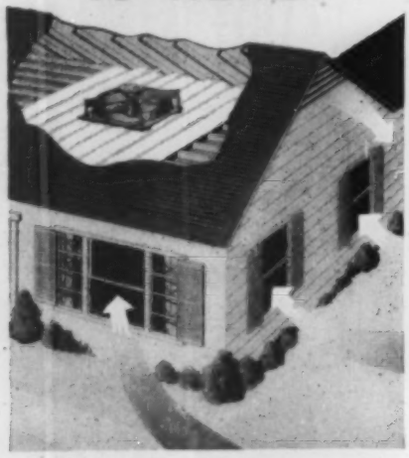
Made of ASBESTOS

Johns-Manville *FLEXSTONE* Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

LOW-COST HOME COOLING IS HERE!



Easily installed attic unit gives cool comfort in hottest weather

No investment can give home owners as much comfort and pleasure as a Hunter Attic Fan. This modern convenience is now being used in thousands of houses and apartments throughout the nation. Low in initial cost and with no upkeep expense, the Hunter Attic Fan is practical for homes in all price ranges.

Installation of Hunter's new, compact *package* fan is simple and inexpensive. Fan, motor, suction box and shutter are all in one unit that requires only a ceiling opening in hallway and 17" clearance in attic. Four models, ranging from 4700 CFM to 9500 CFM, to fit any home size and climate. Quiet, powerful, dependable. Manufactured by Hunter, exclusive fan makers for 64 years.

Mail for Booklet

Hunter Fan and Ventilating Company
396 South Front Street,
Memphis, Tenn.

Send copy of "How to Cool for Comfort" to:

Name_____

Address_____

City & State_____

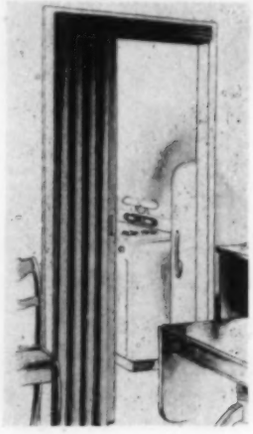
Hunter
Package
Attic Fans

Architectural Engineering

PRODUCTS
(*Continued from page 240*)

Folding Door

A new "accordion-fold" sliding door, called *folDoor*, is mounted on an overhead track concealed by a formed cornice. The doors are covered in plastic fabric, available in a wide range of colors. The frame is said to be rugged and rust resistant. Door handles can be attached at conventional heights. The door is said to be easy to operate. It is made in both stock and made to order sizes for closets, alcoves, partitions, etc. Holcomb & Hoke Mfg. Co., Inc., 1545 Van Buren St., Indianapolis 7, Ind.



New plastic-covered folding door comes with cornice-covered tracks

Switch Box

A new switch box, the *G.E. Levelock*, is designed for faster installation. It has a locking mechanism that wedges the side plates tightly in position. This feature is said to allow the unit to take extra severe abuse without dislodging the side plates, either when being mounted or during scribing for lath or wallboard cutouts. Four contact points on the side plates are claimed to allow steady, even mounting of the box with no rocking or tilting. The box is easily ganged with other boxes. General Electric Co., Construction Materials Dept., Bridgeport, Conn.

HOW TO MAKE A CLIENT HAPPY

. . . and REDUCE HEATING COSTS!

The Smith-Mills "100" Boiler-Burner—a complete heating plant for the average home — comes in four efficient models for steam or hot water systems.

The client for whose home you recommend this compact unit will enjoy sunny warmth and 24-hour hot water.

LOTS OF HEAT!

LOTS OF HOT WATER!

The completely automatic oil burner, built right into the boiler, will give trouble-free service. Tank or tankless domestic water heater.

Here's low-cost comfort and convenience, ready right now! Complete data in Sweet's Architectural Catalog.

H. B. *Smith*
CAST IRON BOILERS
THE H. B. SMITH CO., INC.
WESTFIELD, MASS.
Most complete line in the world of cast iron boilers for heating

marble

Enhances other fine materials

The essential and permanent beauty of Marble is immediately transferred to other fine materials. Copper, brass, bronze, aluminum, stainless steel, glass and other similar materials are richer, more modern, because of their association with Marble.

And the ease with which Marble is maintained or cleaned provides the long-term, low-cost factor so important in modern construction.

The Southern New England Telephone Co.
New Haven, Connecticut
Douglas Orr, Architect
Elevator Cabs and Doors by the W. S. Tyler Co.

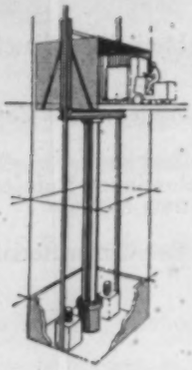
Write for latest literature on foreign and domestic Marbles.

MIA

Marble Institute of America, inc.

108 FORSTER AVENUE, MOUNT VERNON, N. Y.

NEW ELEVATOR ADVANTAGES



GLOBE ENGINEERED EQUIPMENT

- NO PENTHOUSE REQUIRED
- ECONOMICAL TO INSTALL AND USE
- NO LOAD-BEARING WALLS REQUIRED
- QUIET, SMOOTH OPERATION
- ACCURATE LEVELING AT LANDINGS

GLOBE OiLift ELEVATORS

New economy for your clients . . . less installation cost . . . lower maintenance cost, when you specify Globe OiLift Elevators. Advanced design features eliminate penthouse, load bearing walls. Many extra values for greater safety, quietness, service. Passenger or freight elevators. Oil Hydraulic, electric operation. Hold down or automatic push button control.

Mail coupon today for elevator catalogue. Suggestions and estimates on request.

GLOBE HOIST COMPANY

Des Moines 6, Iowa — Philadelphia 18, Pa.

MAIL COUPON NOW

GLOBE HOIST CO.
1000 E. Mermaid Lane
Philadelphia 18, Pa.

Please send new illustrated Catalog A850 showing all details on OiLift Elevators and Sidewalk Elevators.

Name .....

Street .....

City ..... State .....

LITERATURE

(*Continued from page 172*)

and drill heads. 20 pp., illus. U.S. Expansion Bolt Co., 627 State St., York, Pa.

Underfloor Electric Raceways

National Electric Nepcoduct Underfloor Electrical Distribution Systems. Catalog describes the steel underfloor raceway system for new construction and building modernization. Suggested specifications and typical floor plan layout are shown. Drawings, specifications and photographs give the component parts of the system: steel duct, handhole and junction boxes, duct saddle supports, elbows, outlets and service fittings. Photographs are included of typical installations in various stages of completion. 36 pp., illus. National Electric Products Corp., Chamber of Commerce Bldg., Pittsburgh 19, Pa.*

Marble

(*1*) *Marble Forecast;* (*2*) *Marble For The Home.* The first booklet is the 1950–51 edition of an annual publication on domestic and foreign marbles. The following data is provided in concise form: a listing of types of marble, together with source and availability; a tabulation of color ranges of each variety; classification of each variety as to soundness; and a listing of all members of the Marble Institute.

The second booklet gives features of marble for use in homes. Photographs show applications as fireplaces, tables, floors, walls, stair treads, in bathrooms, sills, counter tops, etc. 8 pp., 12 pp., illus. Marble Institute of America, Inc., 108 Forster Ave., Mount Vernon, N. Y.*

Residences

The Producers' Council Building Products Technical Information Bulletin, Residential Issue (*Number 57*). Catalog gives a good amount of information on various products connected with house building that are manufactured by members of the Producers' Council. All are illustrated. Many include details and technical information. A series of addressed cards are included which list

(*Continued on page 246*)

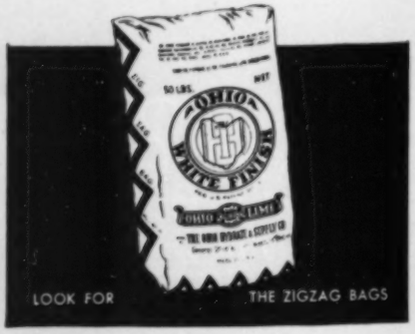
Good Plasterers Know...

. . . that to do their work best they must have a finishing lime that's easy to work, smooth, and far spreading.

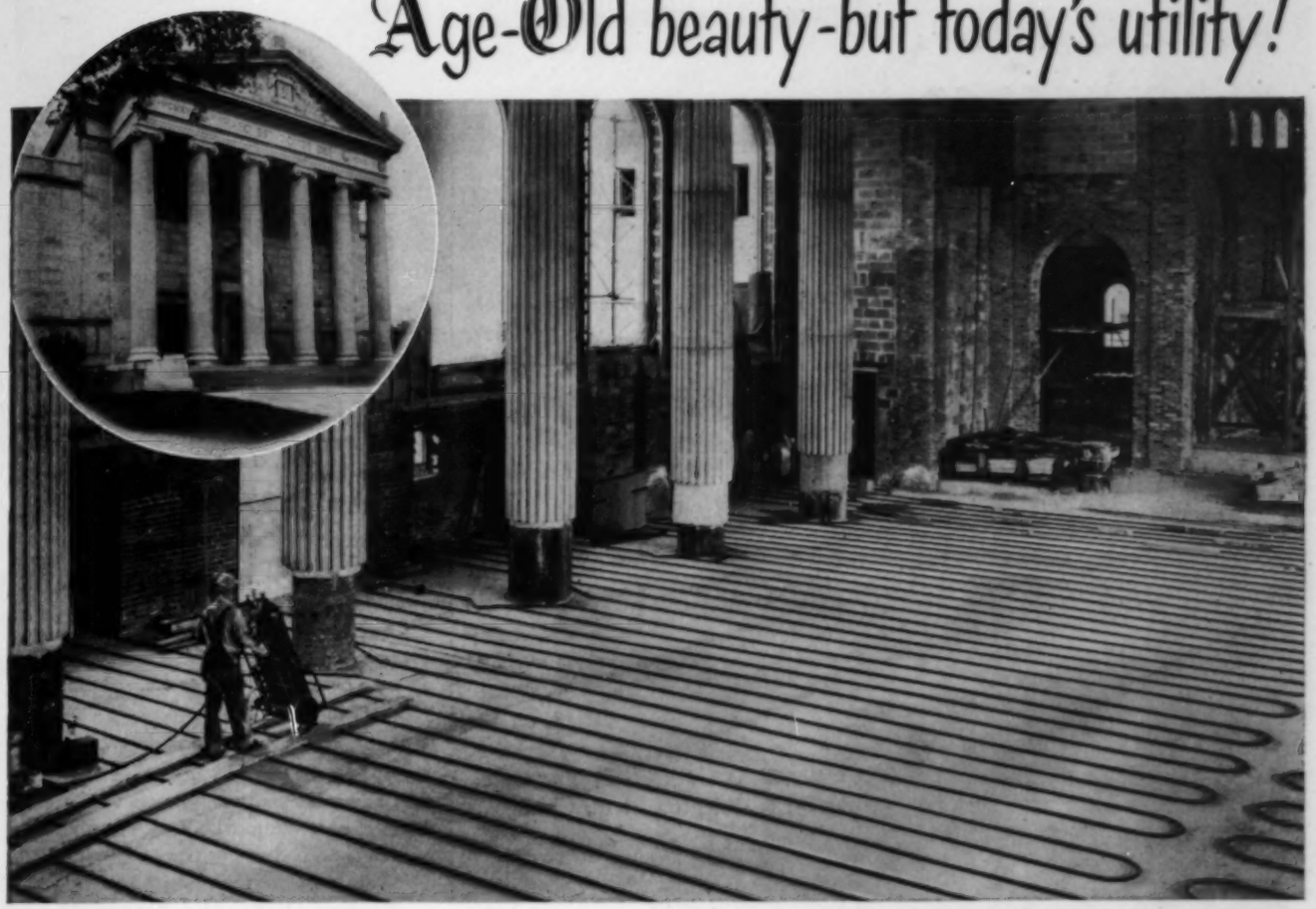
That's why the plasterer's hawk, above, carries Hawk Spread (or its twin brand: Ohio White Finish), wherever quality plaster is demanded.

You too may rely on Ohio Hydrate's brands of finishing lime, scientifically processed from hand picked, kiln burned rock, always of uniform good quality, 99½% pure.

The OHIO HYDRATE & SUPPLY Co.
WOODVILLE, OHIO



Age-Old beauty-but today's utility!



For radiant heated churches, steel pipe is first choice

The inspiration of religion upon the lives of men has been reflected down the centuries, in the beauty and perfection of our houses of worship. Be it a cathedral or a "little brown church in the vale" the traditions of architectural purity have been carried on by succeeding generations.

In the preservation of this age-old beauty, even concessions to the use of modern conveniences and facilities can be harmoniously achieved. Among heating systems, for example, none is more adaptable for this purpose than modern *radiant* heating. Comfortable warmth from concealed sources helps to maintain the simple, dignified atmosphere. Large areas can be heated uniformly. Decorating and cleaning costs are minimized.

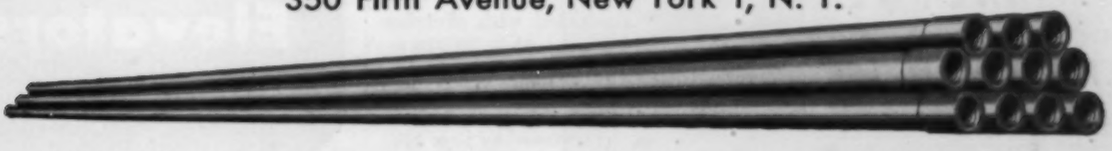
Just as radiant heating blends comfort with beauty, so steel pipe blends durability with economy. That's why steel pipe is first choice for radiant systems in churches, public buildings, plants and warehouses as well as homes. It is natural that it should be so. For more than 60 years steel pipe has a record of proved performance in conventional steam and hot water heating systems.

Partial view of side and bell tower, while under construction, of St. Ann's Church, Cleveland, O. Radiant heating, with steel pipe will provide complete comfort without marring interior beauty.

COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N. Y.



Every Building Needs

PLAN-KEEPER

Throughout the life of any building there is a continuing need to refer to construction plans. The availability of this important data saves inconvenience, time and money when additions, alterations or repairs are made.

PLAN-KEEPER
IS THE ANSWER

Here is a new device—simple, inexpensive, and easy to install—which keeps valuable plans always available and insures their preservation. The PLAN-KEEPER, made of non-corrosive aluminum, is an insect proof tube which can be built into a wall with only the attractive cap showing. A model is available which can be easily installed in any suitable corner of a completed structure. It comes in two models and two lengths (30" and 36"), and costs only $10.00 to $12.00.

Let Us Send You Complete Information

about this remarkable new PLAN-KEEPER, which architects tell us is the answer to a long recognized need. Many Plan-Keepers have already been installed and are proving their value to architects, owners and managers.

Architects - Builders
WRITE TODAY

for free illustrated folders showing complete details of the device, installation data and some buildings in which PLAN-KEEPERS have been installed. Address

MANN METAL
Products Company
St. Petersburg, Florida

Architectural Engineering

LITERATURE

(*Continued from page 244*)

literature available on the products covered in the bulletin. 68 pp., illus. The Producers' Council, Inc., 815 15th St., N. W., Washington 5, D. C.

Framing for Metal Racks

Racks You Can Build With Unistrut (Catalog No. 600). Features and component parts of the framing members are described. Drawings give various sizes available in the metal channel and basic fittings, with notes on loads. Many photographs are included, giving typical applications for many types of storage facilities. Notes are also given on the erection of the metal framing structures. 24 pp., illus. Unistrut Products Co., 1013 W. Washington Blvd., Chicago 7, Ill

Electrical Raceways

How To Lay Out and Estimate G. E. Fiberduct Raceways. Reprints of articles from *Electrical South* magazine give a discussion of underfloor electrical ducts, and step-by-step procedure for working out a layout. Information is included on when and where to use the systems, how to make a materials take-off, and installation procedure. Formulae are given for estimating and figuring materials. The booklet contains many photographs, diagrams, and a short set of specifications. 10 pp., illus. General Electric Co., Construction Materials Dept., Advertising Div., Bridgeport 2, Conn.*

Insulation Fasteners

Stic-Klip Application Bulletin No. 2: The Insulation of Heating, Ventilating, Air Conditioning and Industrial Processing Equipment. Discusses features and uses of the clips, with data on insulation clearance, clip selection, application, spacing, and design considerations. Insulation applications are covered for ducts, apparatus and fan casings, breeching, flues, convex and conical surfaces. All items are illustrated with sketches and diagrams. 14 pp., illus. Stic-Klip Manufacturing Co., 50 Regent St., Cambridge 40, Mass.

(*Continued on page 248*)

ONLY ROTARY GIVES YOU

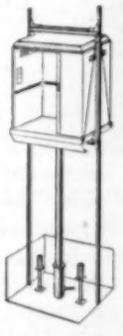
Rota-Flow

For quieter, smoother lower-cost elevator service

Rota-Flow, revolutionary new hydraulic power transmission system, moves Rotary Oildraulic Elevators on a continuous, pulsation-free column of oil.

Rota-Flow eliminates vibration and "pumping" noise and operates with greater efficiency than any other hydraulic power unit. Automatic floor-leveling within ¼" guaranteed, regardless of load size or rate of speed.

Rotary Oildraulic Elevators Cut Construction Costs



For 2, 3 or 4-story operation, Oildraulic Elevators save up to 25% on installed costs. No costly penthouse or heavy, load-bearing shaftway structure needed to support car and load, counterweight and hoisting machinery. Oildraulic Elevators are not pulled up, but are "pushed up" from below by powerful Rotary hydraulic jacks. Rota-Flow power unit can be located within 50 feet of elevator.

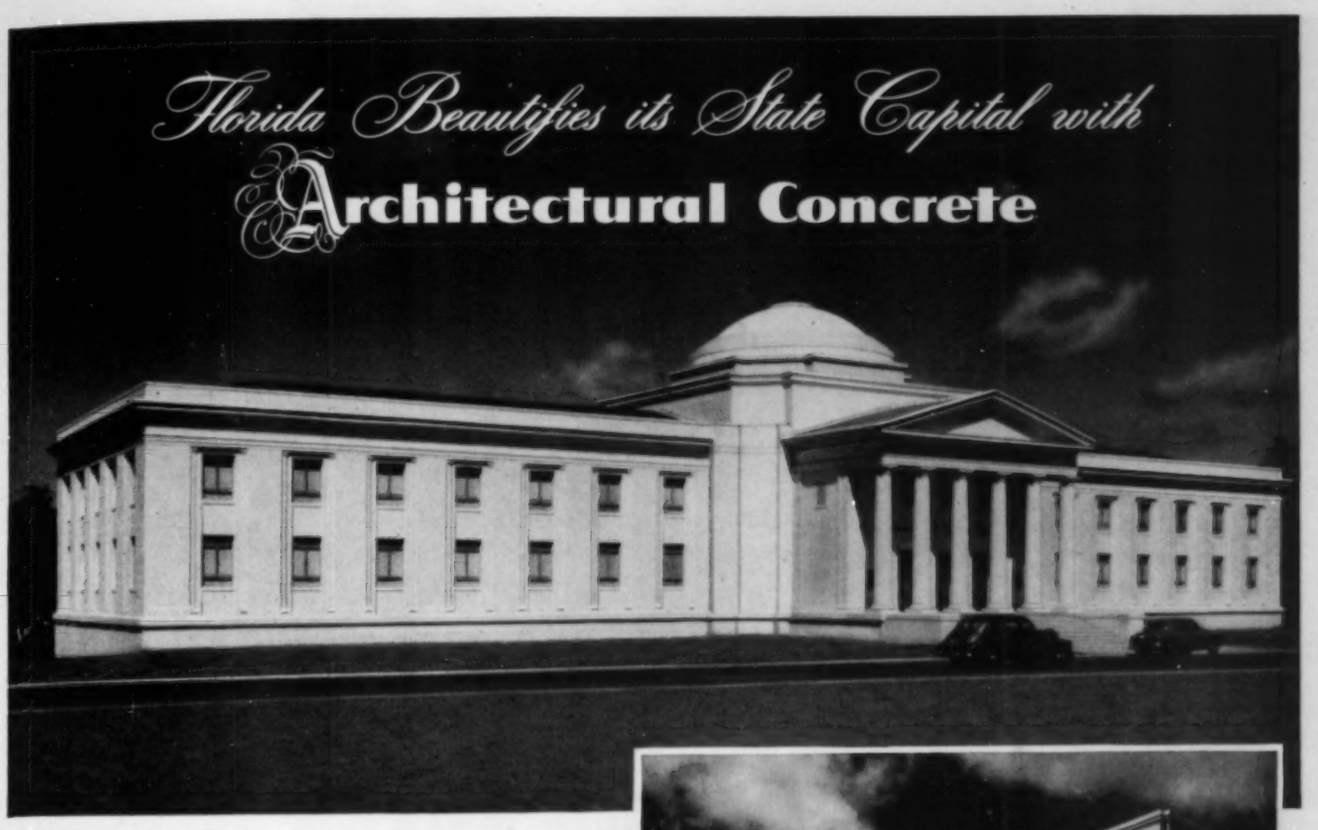
Write for Catalog 304

Compare the Oildraulic with any other elevator. Call on Rotary's coast-to-coast field organization for facts and figures. For catalog, write

ROTARY LIFT CO.
1108 Kentucky, Memphis, Tenn.

Rotary
Oildraulic Elevators
PASSENGER AND FREIGHT

Florida Beautifies its State Capital with Architectural Concrete



THESE THREE distinctive state government buildings in the new Capitol Center at Tallahassee demonstrate the versatility of architectural concrete. They combine impressive beauty with rugged strength, economy and durability.

Architectural concrete is equally adaptable to schools, hospitals, theaters, apartments, stores, factories and office buildings. It fulfills every construction requirement—firesafety, fine appearance, low upkeep expense, long life. It delivers dependable, ***low-annual-cost*** service year after year.

Architectural concrete is economical because both the structural and ornamental parts (molded to express any design or period desired) can easily be cast in a single operation.

By applying the tested and proven principles of quality concrete construction, architects can design architectural concrete buildings with every assurance of lasting satisfaction to client, taxpayer, investor and designer alike.

For helpful information in obtaining quality concrete structures write today for free, 70-page booklet, "*Design and Control of Concrete Mixtures.*" Distributed only in the United States and Canada.

These three architectural concrete buildings, Florida Supreme Court (top), Industrial Commission (above) and State Road Department (below) are located in Capitol Center, Tallahassee. Architects and engineers: Yonge and Hart and James Gamble Rogers II, associated architects. Respective contractors, top to bottom: J. A. Jones Construction Company, Henry C. Beck Company, Southern Builders, Inc.

PORTLAND CEMENT ASSOCIATION

Dept. 8-8, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of portland cement and concrete...through scientific research and engineering field work